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THEODORE GOULSTON, M. D., F. R. C. P.
1574–1632

J. J. KEEVIL

Up to the age of twenty-three when Theodore Goulston [1] received his degree at Oxford, he had led the uneventful life of a country parson's son: it left no enduring imprint on men's minds. His activities during the remaining thirty-seven years of his life were, however, varied and interesting enough to be described in the memoirs and correspondence of his friends, or sufficiently important to find a place in the national records.

The forgotten years of his youth could be dismissed, were it not that it was during this period that Goulston formed interests which throughout his life influenced his choice of friends, and which were never wholly subordinated to his later pursuit of medicine as a career.

His father, the Reverend William Goulston, was not old enough to remember a Catholic England, but the religious conflicts of the reformation had still been acute during his youth and had been of particular significance in a family which was traditionally associated with the church. The boy heard much about the dissolution of the religious orders and of the issues of dogma and authority which had led so many martyrs to the stake. He saw also something of the power of money in the new aristocracy, enriched by the spoils of the monasteries.

[1] The name is spelt Goldson, Golson, Golston, Gouldston, Gulson, and Gulston.

The old learning had, however, remained unchallenged, and even if his father read the Bible in English, yet the place of Greek and Latin in the education of a gentleman's son was unquestioned. Theodore's family was a branch of the Goulstons of Coventry, whose pedigree has been doubtfully traced back to 1283 and who claimed to number among their ancestors Sir Ralph Gulston, an esquire at the battle of Crécy in 1346. Theodore's great-grandfather, William, born in 1495, had been Abbot of Wymondham in Leicestershire until the reformation, when he had become rector of the parish church and had married Susan Morton. Theodore's great-uncle, Nathaniel, had also been rector of Wymondham, but in addition to the family's association with the church it had long connections with the bar.

William and Elizabeth Goulston had two sons besides Theodore, and five daughters. The boy grew up in a youthful family circle, for his father was still in the early twenties when he was born. It is probable that the first nine years of his life were passed in his native Northampton, and that the move to the rectory at Wymondham did not come till 1581, when his great-uncle Nathaniel died. In this hamlet, scattered over the fields round St. Peter's church, he passed the next seven or eight years until he left his home for the Puritan stronghold of Oxford.

At the university there was still a continuity with the mediaeval tradition of learning, and when he received his B. A. in 1595, he must already have possessed those qualities which Anthony Wood remarked upon: he described him as "an excellent Latinist, and a noted Grecian, but better for theology" (24). Theodore certainly showed no medical leanings at this time and must have been undecided as to what course he should pursue. In the following year he was elected a probationer fellow of his college, Merton, and on July 8, 1600, he received his M. A.

Meanwhile his brother, Nathaniel, had matriculated from St. Alban Hall, Oxford, on November 10, 1598, and in the following June had been elected a scholar of Trinity, while on June 22, 1601, his second brother, John, was admitted to Gray's Inn. Another three years pass, however, before Theodore's name appears once more in the Merton College archives, and this time it is recorded in connection with an incident which, taken out of its context, might suggest that he was a litigious young man. In 1604 he incurred the censure of the college for an assault upon Mr. Stukley Blickard, a brother fellow, and was deprived of his commons and college offices for six weeks. Such incidents were, however, not unusual and Mr. Blickard may have been provocative. He had achieved

nothing beyond the brief tenure of the rectory of Farleigh and vicarage of Dodington and irritated other members of common room besides Goulston; the Merton records show that John Philipson also suffered the loss of a month's commons and other penalties because he had called Mr. Blickard a "hog and pig" (3).

Perhaps Goulston was growing somewhat impatient with the narrow confines of academic life. While he lingered at Merton, two of his sisters, Dorothy and Mary, had married, and his own thoughts may have turned in that direction. Whatever the cause, he left Oxford for London in 1606, and on March 9 followed his brother, John, and entered Gray's Inn. His interest in the bar proved, however, to be brief, and although there is no indication that he had studied medicine so far, we hear of him next as practising in his father's village of Wymondham. It must be concluded that he did so in the capacity of an apprentice. That he was able to take his M. D. at Oxford on April 30, 1610, on the strength of such brief and slender experience can surprise only those who still assume that the university statutes regarding the duration of medical studies were actually applied. What is somewhat more astonishing is that he was in the same year successful in passing the examinations of the College of Physicians. Theodore Goulston appears to have been without influence, and that he really satisfied his examiners is shown by the fact that he emerged from his three tests on May 4, October 5, and December 22, 1610, not merely a licentiate but a candidate of the College, that is a candidate for its fellowship. On December 29, of the following year, he was elected to this small and privileged order, and from now on it is as a successful physician that he figures in contemporary reports. While Theodore had been gaining honours in medicine, Nathaniel was also establishing a reputation for learning. Having received his B. A. in 1603 and his M. A. in 1607, he became a probationer fellow of Trinity in the summer of 1609. The election was confirmed a year later, although he had been admitted to Gray's Inn the previous August. The three brothers were all now in London, but their paths were rarely to meet in the future, for while John pursued a successful career at the bar until 1644, Nathaniel became a doctor of divinity and rector of Wymondham, the father of a bishop and grandfather of Joseph Addison.

Theodore's success as a physician was rapid. In 1614 there had occurred an incident which contributed appreciably to it, for he was credited with having saved the life of George Abbott, Archbishop of Canterbury. Abbott,[2] a Balliol man, had been created D. D. the year after Goulston

[2] 1562-1633.

became a fellow of Merton, and Goulston must often have heard his celebrated sermons at St. Mary's. An account of this much discussed case is preserved in a letter, dated from London, the 11th. September, 1614, from the Reverend Thomas Lorkin [3] to Sir Thomas Puckering,[4] Bart. at Tours:

> The Archbishop hath been lately in great danger of death, from a fish's bone, which stuck in his throat as he was one day at dinner, and could not a long time be removed. The doctors gave him over as desperate; yet at length, Dr. Gulston found means to relieve him though the extremity of the anguish cast him into a burning fever, whereof he is now nevertheless recovered (2).

Surviving accounts of similar emergencies in great houses supply the picture of the emotional scenes at Lambeth Palace: the anxious doctors crowding round the Archbishop's bed, the unrestrained lamentations of the attendants, the curiosity and interest aroused as the carriage which had been sent for Dr. Goulston rolled through the gate-house, and the general acclamation aroused by his treatment.

Possibly this early celebrity made him assume a manner too didactic for the taste of the other fellows of the College of Physicians, for on May 23, 1614, Dr. Francis Herring and Dr. Thomas Pattison complained against him. They accused him before the College of having contradicted them in their practice, which was against the statutes and all good custom. The president declared that the three fellows were to appear before him and the censors at the next meeting. On June 3 the plaintiffs produced Dr. Crook and Quick, the apothecary, as witnesses, and after a long hearing it was decreed that Goulston should apologise and promise that he "would better beare himselfe hereafter" (1). The incident passed without rancour and in no way impeded his rapid advancement in the College's favour. Goulston's outlook and interests were indeed too wide to permit of petty jealousies entering into his professional relations. It was, however, among churchmen that he felt most at home. The Reverend Thomas Lorkin was not the only cleric in Goulston's circle of intimates: the Reverend Thomas Gataker [5] was described as "his singular good friend" (9), and with this learned divine, classical scholar, critic and controversialist, Goulston must have had many interests in common. Gataker was only two years his junior, and like him, he came from the depths of the country. Although his rectory was at Redrith in Surrey, he frequently visited London after 1600 in connection with the publication of his innumerable tracts. It is probable that he stayed with Goulston

[3] ob. 1625. [4] 1592-1636. [5] 1574-1654.

at his house in St. Martin's outside Ludgate, where he would be near Stationers' Hall. The discussions would range from such issues as transsubstantiation to the influence of religious dissensions on colonial development.

A letter quoted by Brown (4) without reference, provides the most intimate, if brief, acount of Goulston's home: "Ultamatamakin (commonly called Tomacomo), one of Pohatan's councellours, that came over with Dale, was a frequent guest at Master Doctor Goldstone's in 1616, when he sang and danced his diabolicall measures and discoursed of his Countrey and Religion." Goulston was to have good reason for an interest in Tomacomo's country, for in 1619, when his friend Sir Edwin Sandys[6] was Treasurer of the Virginia Company, he began to invest in it. Goulston had saved Sir Edwin's life and had been made a free brother of the East India Company on September 6, 1614, at the request of his grateful patient. When Sandys became Treasurer and advised him to buy shares in the Virginia Company, he felt he could trust the sincerity of his motives. Many of Goulston's friends had interests overseas. Puckering was a member of one of the many companies formed to discover the North-West Passage to China. Archbishop Abbot had once found time amidst his Puritan polemics and persecution of Catholics, to write a treatise on geography with special reference to America. On June 14, 1619, Goulston had been appointed to the Committee of the Virginia Company, "concerning the colledge in Virginia, being a waighty bisiness, and so greate that an Account of their proceedings therein must be given to the State" (2). Before the year closed we find him buying six shares of land in Virginia from John Cage Esq., three shares from Peter Bartle worth £37:10:0, and one share worth £12:10:0 from John Payne, gent. Thenceforth Goulston was concerned for the welfare of the company from which he must have made much profit: indeed the money with which he endowed the lectures still given in his memory might with some justice be regarded as American in origin, were it not equally possible to claim that it came from his very successful practice. Goulston moved among eminent men—Sandys himself was for long a member of Parliament and became a public figure through his stand against the king's infringement of his people's liberties—but in addition to his social life and his busy practice, he had become increasingly occupied in administrative duties at the College of Physicians. On June 25, 1614, the President, Dr. Thomas Moundford, had invited him to become a member of the committee which

[6] 1561-1629.

he had formed to direct the production of the first *Pharmacopoeia Londinensis*. The absence of any precedent, except from the continental pharmacopoeias, the confused state of therapeutics, the absence of any agreed criteria for judging the efficacy of pharmaceutical products and the legal issues involved, all added to the heavy responsibilities of the committee which sat for four years.

Then, at Michaelmas 1615 and again in 1616, Goulston added the cares of a censor to his other activities. His duties as an examiner were negligible compared with those involved in the control of the profession in London, for at this time the censors were an active disciplinary court with powers to imprison and fine the irregular practitioners who swarmed about the City. The difficulties of the censors were immensely increased by the tendency of the high officers of state and great churchmen to patronise the more spectacular empirics and attempt to influence the College in their favour.

Meanwhile Goulston had been occupied in the translation of Aristotle from the Greek, and in 1619 there appeared his *Versio Latina et Paraphrasis in Aristotelis Rhetoricam,* with a dedication to Charles, Prince of Wales. It was a quarto of 239 pages, of which he could well be proud. Edward Griffin printed it for him with much care, providing a handsome, ornamented title page and good type. Four years later he followed this with his *Aristotelis de Poetica liber: Latinè conversus et analyticâ methodo illustratus,* the dedication to the prince now appropriately in verse. Perhaps increasing wealth had brought more leisure for such pursuits, for of this wealth there are convincing indications. In 1623, when his second book appeared, Goulston accepted liability for £200, owed by Moundford to the College, and the elects agreed that the lease of its house should be given to him " for his use as security " (1). The arrangement was continued until October, 1627, when another president, Dr. John Argent, asked him either to renew the mortgage or to surrender the lease upon repayment of the money due to him, since the lease had to be renewed with the Dean and Chapter of St. Paul's. Goulston agreed to give up the lease " when the money with the Consideracon shall be repayed " (1), and desired that whatsoever he should " give in kindness to the Colledge upon repayment " should be " Registered in the Colledge Annals as a Benefitt done " (1). But no such kindness was in fact recorded.

Goulston does not appear to have increased his holdings in the Virginia Company, but his interest in it continued, and in July, 1621, he was consulted on the appointment of a medical officer for the " physician's place

in Virginia vacated by the death of Dr. Lawrence Bohun" (4). He recommended Dr. John Potts be sent.

Some time before 1608, Goulston had married Ellen Sotherton, the daughter of George Sotherton,[7] twice M. P. for London, Master of the Merchant Taylors' Company and deputy of the Company of Merchant Adventurers; her mother was Elizabeth Carrill,[8] a member of an illustrious family. It is, however, doubtful whether his wife's fortune was considerable, for the Sothertons had had four sons and ten daughters.

Goulston was again elected a censor in 1625 and 1626. Although this was the last time that he was to hold a College office, he was, according to Dr. Baldwin Hamey, outstanding for his zeal and generosity in extending the knowledge of anatomy. Hamey was himself to become known as a teacher of anatomy and was a future Goulstonian lecturer, but unfortunately he gives no details of Goulston's work in his "Brief Lives."[9] Anatomy lectures had been instituted at the College of Physicians about 1565 and were supposedly given annually in turn by each fellow. But they were unpopular among the audience of candidates and licentiates, who attended under compulsion, and among the lecturers, who sought excuses to avoid them. It is more likely that the lectures which Goulston gave with such success were at Barber-Surgeons' Hall.

As a fellow he had to attend meetings of the College at which important discussions might take place and decisions affecting national policy might be made. One such which affected him personally, occurred in 1628. On October 13 the president summoned an extraordinary meeting of the College to consider a letter which had been addressed to him by the Privy Council, when it had assembled at Hampton Court on September 28. All the great officers of state had attended and indeed the issue was of much economic significance. When the College met, the president placed the following communication before the fellows:

Whereas his Ma^{ty} hath been credibly informed that the Tobacco of the growth of England and Ireland and dominions thereof is not only found to be unwholesom for mens bodyes but a great hindrance and tending to the ruin and overthrow of Plantations in Virginia and other parts beyond the Seas, and being desirous and willing out of his Princely care and Royall disposition for the good of his people to be throughly informed befor any further Count be taken whether the use of English Tobacco as it is usually taken, be so hurtfull to mens bodys as is informed did Command and their Lordships do accordingly order That the President and the rest of the Colledge of Phisitians shall assemble themselves together and after

[7] ob. May 24, 1599. [8] ob. Sept. 10, 1608. [9] *Bustorum aliquot reliquiae.*

mature delibration certify their opinions therein whereof they are to take notice and to perform the same with expedition.

W. Trumbull (1).

Brought to England in 1586, tobacco had gained steadily in importance not only from its social aspect, but for therapeutic purposes. It was used as an infusion of the leaves for bathing inflamed eyes, and late in the seventeenth century its smoke was still favoured for intractable bronchial conditions, as Dr. Thomas Gifford testified from personal experience in a letter to Dr. Hamey. The first shipment of tobacco from Virginia had been in 1614, and so profitable had the trade proved for the development of the colony, that in 1619 tobacco-growing in England had been prohibited and foreign tobacco was also excluded in order to protect the Virginians' interests.

The appeal to the College in 1628 suggests that the prohibition of tobacco-growing had proved ineffective and had to be supported by something more than economic reasons. If English tobacco could be proved harmful, its market might be destroyed.

After the royal command had been read, the College ordered a discussion so that the elects might consider the general opinion of the fellows. Evidently the corporation was reasonably unanimous in coming to a decision which was both opportune and expedient, for only three days later, on October 16, the elects were able to provide the following satisfactory reply:

Right Hon^{ble} According to an Order from this Hon^{ble} board of the 28 of September that we the Pres and fellows of the Colledge of Phisitians of London should assemble ourselves, and after mature deliberation certify our opinion concerning Tobacco of the growth of England, and Ireland, whether the use thereof as it is now usually taken be unwholesome and hurtfull to mens bodys as his Ma^{ty} is informed: we have accordingly mett together advisedly debated this matter: And our opinion is that as it is now usually taken it cannot be but very unwholesome and hurtfull, falling short of the perfection of other Tobaccoes that are brought from other more Southern partes where it hath less naturall maturity vigor and efficacy (1).

Goulston's Virginian stock only represented a portion of his wealth. Like his contemporaries he had invested much of his fortune in land and his properties were scattered over the counties of England. In London he only kept something under a thousand pounds in gold coin. In the spring of 1632, he realised that his end was approaching and gave much thought to the disposal of his estate.

His parents, William and Elizabeth Goulston, were still living, and he made provision for them in the will which he drew up on April 26; he made generous bequests to his brothers and sisters, to his godson, Theodore Goulston, to Sotherton connections, but the bulk of his property he left to Ellen, his wife, either directly or in trust. There were many others to remember: his apothecary, John Toomes, who got £10; his friends in the ministry of the Church—£3 for a gold ring for Thomas Gataker; £20 for the repair of St. Paul's cathedral, whose fabric was causing much concern. He provided for the lecturer of St. Martin's, Ludgate, and for the parson who should conduct his funeral service, and a banquet for the doctors and others who should attend it. He left £20 for the relief of the poor of the parish. He expressed a wish, but did not write it down, that his books should go to Merton. To the College of Physicians he left £200 for the endowment of a lecture and detailed the conditions which should govern it.

Goulston died at his home on Ludgate Hill on May 4, 1632, and was buried in his parish chruch, and the long settlement of his estate began. The vestry of St. Martin's met on July 29, 1633, to dispose of his bequest to the poor, but the inception of the Goulstonian lectures was much delayed and was not free from controversy. The College Annals for October 1, 1632, contain the following entry: "Mr. President [Dr. John Argent] adviseth that the clause of Dr. Gulston's legacy concerning the lecture maye bee had in consideration, and that some course should bee taken to secure the monye to the use of the Colledge" (1). But it was not until July 22, 1635, that the new president, Dr. Simeon Fox, was able to make "knowne that Mrs. Goulston hath provided ane annuity of twelve pounds p. annum to bee payd yearly to the Colledge for the maintenance of the extraordinary Anatomye lecturer. . . ." (1).

Mrs. Goulston had conveyed in trust an annual rent charged on land called Fennes and Buckwoods in the parish of Bocking in Essex. The £12 were to be paid at the porch of St. Martin's, Ludgate, on the following Christmas day, and thenceforward in perpetuity.

> Mr. President did therefore propound to the foure younger fellows being al present, wether they would bee willing to accept this lecture, w^{ch} they all assented unto: and Dr. Goddard the senior of the four hath accepted of itt, as itt shal be ordred by the Committees. It was further propounded by Mr. President, that the reading of Dr. Goulston's lecture shal bee inserted into the Oathe of all fellowes to be chosen hereafter, as it shall bee ordred by the seniors: this was assented to by all (1).

It was a wise precaution, but even the oath did not secure obedience. Dr. William Goddard, who had been elected a fellow in the previous August having graduated at Oxford in July, was very young but he was also "contumacious," and there is no record of the lectures being given until 1639, when thirty-five-year-old Dr. William Rant delivered them. He was followed by the great Dr. Francis Glisson in 1640.

With the institution of the Goulstonian lectures the routine anatomy lectures given at the College were discontinued. This is understandable for the new lectures imposed some strain on the endurance of both the lecturer and his audience. He had to treat of two, three, or more diseases as prescribed in the will, and his lectures were to be read during the cold weather some time between Michaelmas and Easter. If a dead body could "by any means" be procured, it was "to be dissected for the diseases to be treated of," and he was to speak "upon the forenoons and afternoons of three successive days" (11). The lecturer got £10, and the balance of £2 was for the person or persons employed "about the dissectinge . . . and about the Interringe of the said dead body" (11). Provision was made for the holding of the lectures as soon after the specified date as possible, if delayed "by reason of any Comon infection or other like Inevitable Accident" (11).

Ellen Goulston died on August 25, 1637, and was buried at her own request [10] beside her husband in the church which was soon to perish in the great fire. The political unrest quickly drove Goulston from the memory of his colleagues, but in 1640 the learned world was reminded of him once more, when Thomas Gataker prefaced and published Goulston's last work, the *Versio, variae lectiones et annotationes criticae in opuscula varia Galeni.*

My thanks are due to the officers of the Royal College of Physicians of London for permission to quote from the various manuscripts in their keeping.

REFERENCES

1. Annals of the Royal College of Physicians of London. MS. III. 1608–47.
2. Birch, T., *Court and Times of James I*, 2 vols., London, 1849.
3. Brodrick, G. C., *Memorials of Merton College.* Oxford, 1885.
4. Brown, A., *The Genesis of the United States.* 2 vols., London, 1890.
5. Davies, G., *The Early Stuarts 1603-60.* Oxford, 1945.
6. Foster, J., *Alumni Oxonienses.* Oxford, 1891.

[10] The statement in Munk's *Roll* is incorrect.

7. Foster, J., *Register of Admissions to Gray's Inn, 1521-1889.* London, 1889.
8. Gifford, T., Holograph letter to Dr. Baldwin Hamey, undated. Western MSS. Collection, Royal College of Physicians, London.
9. Goulston, T., Will. P. C. C. (64 Audley), 1 June 1632.
10. Goulston, E., Will. P. C. C. (119 Goare), 7 Sept. 1637.
11. Goulston, T., Trust deed, 24 July 1635. Legal MSS. Collection, Royal College of Physicians, London.
12. Hamey, B., "*Bustorum aliquot reliquiae.*" Western MSS. Collection, Royal College of Physicians, London.
13. Munk, W., *Roll of the Royal College of Physicians.* 2nd ed., 3 vols., London, 1878.
14. Nichols, J., *History and Antiquities of the County of Leicester.* 2 vols., London, 1795.
15. Moore, N., "Theodore Goulston." *D. N. B.*, xxii. London, 1890.
16. *Notes and Queries.* 8th series, vi, 1894; 10th series, x, 1908; London.
17. Poynter, F. N. L., and Bishop, W. J., "A Seventeenth Century Doctor and his Patients: John Symcotts, 1592?-1662." *Beds. Hist. Record. Soc.*, xxxi, 1951.
18. Robinson, C. J., Holograph letter to E. J. Sage, March 9, 1864. Western MSS. Collection, Royal College of Physicians, London.
19. St. Martin's, Ludgate, Vestry-Book, 1568-1715. MS. 1311/1, fols. 125 R, 130 V. Guildhall, London.
20. Singer, C., "The Early History of Tobacco." *Quarterly Review*, 219, 1913.
21. Smith, H. E., *Annals of Smith of Cantley, Balby, and Doncaster, Co. York.* Privately printed, 1878.
22. Watt, R., *Bibliotheca Britannica.* Edinburgh, 1824.
23. Wilkinson, R., *Antique Remains of St. Martin Outwich.* London, 1797.
24. Wood, A., *Athenae Oxonienses.* 3rd ed., London, 1815.

A PROBABLE CASE OF PEPTIC ULCER AS DESCRIBED BY AMATUS LUSITANUS (1556)

JOSHUA O. LEIBOWITZ

It is uncommon to find an account of chronic peptic ulcer—with or without a description of the pathological changes—in early medical literature. As Walter Pagel pointed out, there is no reason to assume knowledge of this disease as a clinical nosological entity on the part of the authors of the Greek and Roman periods. The " morbus niger " of the Hippocratic school represents a sign met with in different conditions and only describes hemorrhage which may be due to disease of the spleen, portal stasis, gastric carcinoma and allied morbid states. Nor does the anatomically-minded Talmudic medicine mention gastric diseases of the ulcer type, although perforations of the stomach—open and closed—in animals are often referred to.

Only towards the end of the 16th century, with the spread of anatomizing, do descriptions strongly suggestive of peptic ulcer begin to appear. The finest is that by Marcello Donato (*De medica historia mirabili*, Mantuae, 1586, liber IV, cap. 3., p. 195-199): Camillus Facinus, aged 59 years, with an enlarged spleen due to an old malarial infection, began vomiting twice a day (" three pounds of mucus ") and had epigastric pains (" circa fundum ventriculi "). The vomiting lasted four days and the patient then died. On post mortem examination Donato found that the inner layer of the stomach near the pylorus was eroded (" exesam "); " we do not doubt that this was the cause of the disease," says the author (p. 197). It is a description suggestive of pyloric stenosis due to a prepyloric ulcer. However, no account of the signs and symptoms of a chronic ulcer was given. This case is also referred to by Théophile Bonet (*Sepulchretum*, lib. III, sect. VIII, observatio IV, p. 90, editio Mangetus, Lugduni, 1700), the title of the section in his book being: " De vomitu et nausea." The underlying cause (i. e. peptic ulcer) as an entity in the classification of disease was not yet accepted by the profession. A case of gastric perforation was described by Casparus Bauhinus (1560-1624) and also referred to by Bonet (III, sect. XXI, obs. XXV, p. 440) with the post mortem findings.

It is beyond the scope of these introductory remarks to give a full history of peptic ulcer. Besides, this was already masterfully done in

1932 by W. Pagel, especially from the standpoint of pathology. But one observation is worthy of being quoted as an additional step towards the recognition of peptic ulcer as a morbid entity. In 1749, Giovanni Bianchi —under the latinized name of Janus Plancus—published in Venice a thin book in gr. 4°, beautifully printed and illustrated, bearing the title "De monstris ac monstrosis quibusdam." It includes the following observation: Josephus Zanneli, clergyman, suffered for three months from pain in the stomach with exacerbations five to six hours after meals and with remission after vomiting. Then black stools were noticed, the patient became somnolent and died. Bianchi performed the dissection in the monastery of the late clergyman in the presence of his pupils, the fellows of the dead man, and the abbot. He found a fibrotic round ulcer "ulcus callosum circulare"), two fingerbreadths from the pylorus in the wall of the stomach; much blood was found in the intestines. However, even Bianchi did not clearly apprehend that he was dealing with a typical morbid entity but included this case in his book with the ominous title "De monstris."

Only in 1830 did John Abercrombie stress the symptoms of chronic peptic ulcer, not complicated by stenosis, bleeding, or perforation, and found that pain increased two-to-four hours after eating. The rôle played by Cruveilhier (*Anatomie pathologique*, 1830-42) in establishing a theory of ulcer-formation as well as in the iconography of the disease has often been pointed out. However, the conception of peptic ulcer as a well defined and common disease was acknowledged only towards the end of the 19th century.

Amatus Lusitanus (1511-1568), famous Marrano physician of the Renaissance, had, of course, no precise knowledge of the pathology of this disease. It is therefore really astonishing to find in his writings a true description and effective treatment of a peptic ulcer. This is in contrast to his thoroughly false pathology which was built on the four humours of Galen. As a result he attributed the signs and symptoms of the illness he was describing to a disorder of bile production. It is in his fourth Centuria (collection of 100 medical histories) "Curatio 42," that he describes the illness of Azaria Dei Rossi (1514-1578), also a known physician, and a great scholar in Jewish history who is regarded as the founder of historical criticism in Newer Hebrew Literature. Amatus tells of their meeting in a bookshop in approximately 1548, their discussion of a certain book which they found there, and of Dei Rossi requesting his

medical advice for the treatment of a chronic and serious disease from which he was suffering.

The case of Azaria is intermingled with some features not directly relating to the gastro-intestinal tract, for instance, previous infection of malaria. The aim of this paper is to deal only with the gastro-intestinal disturbances of this particular case and to try to establish the diagnosis, not an easy task when one is at a distance of 400 years from the patient.

Azaria was then 35 years of age. He was slender in build and of a " leptosome " constitution, if we may be permitted to use a modern term. On examination, there were rumbling noises in the upper part of the abdomen. He suffered often from extreme hunger especially at night-time. At one point in the report, the author speaks of the dog's hunger (fames canina).

Azaria also suffered from constriction in the chest which mainly appeared at night. He felt some relief after belching. During attacks he often passed great quantities of a colourless and watery urine (urina spastica). The pain increased when the patient lay on his left side. We infer from this fact that the emptying of the stomach contents through the pylorus was difficult, but the pressure of the gastric juice was easier when the patient rested on his right side.

The supposition that Azaria suffered from a peptic ulcer is based on his age (35 years), on his constitution which appears to be asthenic, on the hunger pain which is particularly characteristic of this disease and on the exacerbation of the pains during the night. It is also safe to suppose that the patient suffered from hypersecretion of the stomach and from a functional pyloric stenosis.

Amatus called his patient Azaria—" the Jew of Mantua." It may be of interest to emphasize the fact that this Marrano author, Amatus, who suffered so much from the persecutions of the Church and the Inquisition was fond of describing the particulars of the life and customs of the Jews. It seems that in this way he tried to find a compensation for his Jewish consciousness which he was obliged to conceal in his daily life until the period when he succeeded in fleeing from Italy and openly confessing Judaism, finding resort at Salonika which was then free from religious persecution. Similarly he underlines without any particular need a doctrine of Maimonides in a passage discussing the black bile which, in his view, was the causative agent of Azaria's disease. He emphasizes some peculiarities in the daily life of the Jews in Italy as factors productive of this disease, namely their living under constant stress

and persecution, their permanent occupation with study, particularly of Jewish tradition, and their peculiar dishes, such as smoked and roasted meats, salted cheese, beans, lentils and olives. These life and nutrititional habits correspond fully to our newer concepts of conditions which may provoke the development of a peptic ulcer.

Turning to therapy, Amatus advises the intake of cooked vegetables and fruit. The bread which the patient may eat must be white, of light texture, and contain carraway seed to avoid flatulence. Among the meat dishes, he prefers chicken, veal, or young mutton. He orders the intake of vegetables such as lettuce and spinach. Fruits which he permits are grapes, almonds, and melons. On the other hand, beans, and other legumes are forbidden, but sometimes the patient is allowed to partake of chicken-soup with purée of peas. Eggs are allowed, provided they are boiled but not fried. Fish also must be served cooked in water but not fried in oil. Any physician who reads these dietetic prescriptions is reminded of the advice which he himself gives in daily practice to his ulcer patients.

Further, the author insists that a more substantial meal should be taken by the patient in the morning. This also corresponds to modern concepts inasmuch as food-intake after the night's abstinence is advisable in order to combat hunger pain and to counteract the night's secretion of the gastric juice. As a man of Mediterranean habit, Amatus does not prohibit light wine, but allows it only if diluted with cold barley and water (an interesting combination!) and only in moderate amounts. Then he prescribes sufficient sleep, with preference for the right lateral position. Study must be restricted; at night it is to be avoided, while during the day it is permitted not earlier than two hours after a meal and then only "light studies," since studies of a heavy nature use up the strength of the body. Sexual intercourse is allowed "at intervals" without specification of the length of the interval, the view being that this would refresh the patient. The lectures which the patient may wish to give to his pupils must be of a quiet nature. It is absolutely necessary to avoid tension and anger, while enjoyment and pleasure are contributory to health. Bloodletting and strong laxatives are not allowed because of the weakness of the patient. Instead of evacuations the intake of fruit-juices and decoctions is advised. Every morning for a lengthy period of time a decoction must be administered consisting of malt, the herb of fumus terrae, and small amounts of senna. After this light purging the patient is advised to take for a further period of 10 days another decoction of a mild and palatable nature (the author gives the full description).

As an external treatment the patient receives daily, morning and evening, an ointment of oil of roses to be rubbed in over the stomach. Heat treatment is effected by making an ointment of althea, goose-fat and vinegar, warming it over a flame with red wax and oil and applying it to the upper part of the abdomen. During the day the patient wears a silk-bag over the stomach containing different aromatic substances. There follow warm baths to which is added a decoction of camomile, roses, althea, and other roots. After bathing, rest is advised; thereafter massage of the whole body follows and the body is anointed with oil of almonds.

The author states that the treatment was continued up to four months; after this the patient recovered strength "to the extent of that of a pugilist."

When we read the account of these therapeutic procedures we are almost induced to envy this well planned and cautious treatment including rest (much more than we are able to grant our patients), a regulated and at the same time rich diet, consideration of the psychic factors, a cautious and varied medication and physical therapy in the form of applications to the skin, massage, and baths.

The treatment was fully successful. We know that for thirty years afterwards Azaria lived the active life of a busy physician and investigating scholar, though not in the style of the "light studies" of the days of his cure and not devoid of conflicts and sorrows.

Thus, a full symptomatology of peptic ulcer with a reasonable therapy is outlined in one of the "curations" of Amatus Lusitanus notwithstanding the fact that this author of the 16th century was by no means aware of the true pathology of this disease.

BIBLIOGRAPHY

Théophile Bonet, *Sepulchretum sive anatomia practica*, vol. II, Geneva, 1679.

John Abercrombie, *Pathological and Practical Observations on Disease of the Stomach*, Edinburgh, 1830.

Jean C. Cruveilhier, *Anatomie pathologique du corps humain*, Paris, 1830-1842.

Amatus Lusitanus, *Curationum medicinalium centuriae III et IV*, Lyon (Gabiano), 1556.

Walter Pagel, Geschichte des runden Magengeschwuers, *Sudhoffs Archiv fuer Geschichte der Medizin*, vol. 25, 1932, pp. 330-348.

Harry Friedenwald, Two Jewish Physicians etc., in *Jews and Medicine*, Baltimore, 1944, vol. 2, pp. 391-403.

DANIEL DRAKE AND THE ORIGIN OF MEDICAL JOURNALISM WEST OF THE ALLEGHENY MOUNTAINS *

EMMET FIELD HORINE

The year 1952 marks the centennial of the death of Daniel Drake. A century ago he was the foremost physician west of the Allegheny Mountains and had an international reputation. He was born in New Jersey on 20 October 1785 and died in Cincinnati, Ohio, at 6:00 p. m. on Friday, 5 November 1852.

A lengthy discourse could be written about the fields of activities in which he pioneered in the West. However, only some of the outstanding *firsts* can be mentioned at this time. He was the first medical student in Cincinnati, the first to receive a medical diploma and the first to submit to vaccination there.[1] He wrote the first book with a medical section published west of the Alleghenies.[2] This book contained the first comprehensive account of a western town (Cincinnati), the first listing of its indigenous plant life and the first mention of a hitherto unknown local malady, ***milk-sickness.*****

Daniel Drake was a member of the first active faculty (1817) of the first medical institution (Transylvania University) west of the Allegheny Mountains.[3] He fathered the first museum in the West for the preservation of the local antiquities, the flora, the fauna etc. The hospital which

* Read at the twenty-fifth annual meeting of the American Association of the History of Medicine, Kansas City, Kansas, May 1, 1952.

[1] Daniel Drake: *Discourses Delivered by Appointment before the Cincinnati Medical Library Association.* Cincinnati: Moore & Anderson, 1852, p. 40.

[2] Daniel Drake: *Notices Concerning Cincinnati.* Cincinnati: Printed for the author, at the press of John W. Browne & Co., 1810. This, the rarest of Drake's books, has once been reprinted, page for page, in *The Quarterly Publication of the Historical and Philosophical Society of Ohio* (Cincinnati), Vol. III, January-March, and April-June, 1908. Unfortunately the issues of this publication have long been out of print.

** Milk-sickness (trembles), now quite rare, affects animals as a result of poisoning by white snakeroot (Eupatorium urticaefolium), or the ragless goldenrod (Aplopappus heterophyllus.) The disease is transmitted to man and many animals through ingestion of milk, butter, and flesh of those poisoned. The mother of Abraham Lincoln died of milk-sickness.

[3] Emmet F. Horine: Early Medicine in Kentucky and the Mississippi Valley: A Tribute to Daniel Drake. Read before the Centennial Meeting (1947), American Medical Association. *J. History of Medicine and Allied Sciences* (New York), III: 263-278, Spring 1948.

he founded—the Commercial Hospital and Lunatic Asylum of Ohio—for teaching and staffed exclusively by the professors of his medical college was the first in the United States established primarily for teaching purposes.[4] The medical college set up by Drake, now the University of Cincinnati School of Medicine, was the second in the West.

It is wholly in keeping with the versatility of Drake's genius that he was also the first to plan for the publication of a medical journal in the West. In 1818 he " issued proposals for a journal, and obtained between two and three hundred subscribers. . . ." [5] However, his manifold activities at this time, coupled with difficulties encountered in opening his medical college, prevented the launching of the periodical.

When only thirty-four years of age Drake was Cincinnati's first citizen and, consequently, host to its prominent visitors.[6] His medical practice was extensive. He was lecturing to lay audiences on botany, mineralogy, and agriculture, planning for the establishment of the medical college, carrying on an extensive correspondence in behalf of his Western Museum and arranging for its opening, planning consolidation of the Lancasterian Seminary with his newly established Cincinnati College, and participating in the activities of the Humane Society founded for the purpose of resuscitating persons apparently drowned. He was active in the Cincinnati Medical Society, was President of the Cincinnati Library Society, and directed the affairs of a mercantile firm, Isaac Drake & Co., established for his father. The wonder is that he accomplished so much, not that he failed to start immediately the medical journal he had planned.

After earlier disappointments Drake, in 1820, succeeded in opening The Medical College of Ohio. At this time he delivered his important *Inaugural Discourse on Medical Education* which has attracted so much attention and was reprinted in 1951.[7] The first faculty of The Medical College of Ohio consisted of four chairs, " settees " as Oliver Wendell Holmes (1804-1894) would have termed them. Drake was President and Professor of the Institutes (i. e., physiology) and Practice of Medicine, including Obstetrics and Diseases of Women and Children; Jesse Smith (1793-1833), Professor of Anatomy and Surgery; Benjamin S.

[4] Daniel Drake: *An Inaugural Discourse on Medical Education: Delivered . . . , November 11, 1820.* Cincinnati: Looker, Palmer & Reynolds, 1820. Reprinted with an introduction by Emmet Field Horine. New York: Henry Schuman (1951), p. xxiii.

[5] Daniel Drake: *Discourses, loc. cit.*, p. 77.

[6] Emmet F. Horine: Cincinnatian Unique: Daniel Drake. (Commemoration Address.) *Cincinnati J. of Med.*, XXXIII: 200-210 and 222-238, May 1952.

[7] *Loc. cit.* [Footnote 4.]

Bohrer (1788-1861), Professor of Materia Medica and Pharmacy; and the Rev. Elijah Slack (1784-1866), Professor of Chemistry, assisted by Mr. Robert Best (1790-1830).[8]

In 1821 Drake called from Philadelphia the erudite John D. Godman (1794-1830), who was given the Chair of Surgery and Demonstrative Obstetrics. In many ways Drake and Godman were similar. Each was largely self educated, each had an intense desire for scientific knowledge, and they were alike indefatigable. Godman's lectures " were well received by the class, who admired his genius, were captivated by his eloquence, and charmed by the naiveté of his manners." [9]

Unfortunately, the 1821-22 session of the Medical College of Ohio was marked by intrigues against Drake by the Rev. Elijah Slack, Jesse Smith, and Bohrer, all of whom owed their positions to him. Godman, though not implicated, resigned at the close of the session and opened an office in Cincinnati. It was there that he constructed the first apparatus in the west for the treatment of skin disease with " sulphurous fumigation." [10]

Through the patronage of the first exclusive book shop owner in Cincinnati, John P. Foote (1783-1865), Godman issued in 1822 the first number of the first medical journal printed west of the Allegheny Mountains: *The Western Quarterly Reporter of Medical, Surgical and Natural Science.* This periodical was not preceded by a prospectus, the first number being " offered as a specimen of the manner in which the work is to be executed, as well as the principles by which the Conductor of it, is to be governed." In the preface Godman announced his aims with rhetorical flourish;

> To assist in advancing the great cause of improvement and science, is a pleasing occupation under any circumstances, but more especially so in a country like this, where society is yet so young and the kingdoms of nature so partially explored. The time which has elapsed since its first settlement is so short, and the changes effected have succeeded each other with such rapidity, that credit can scarcely be given to the fact, that forty years ago, the places now enlivened by cities, towns, villages and all the bustle of society, were shadowed by ancient forests, re-echoing with the howls of ferocious animals—the more discordant and terrifying yells of savage men, or the sullen roar of mighty rivers rolling their tributary waters to the ocean.

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[8] Daniel Drake: Medical College of Ohio. *Liberty Hall and Cincinnati Gazette*, N. S. II, p. [3]-c.[2-3], August 23, 1820.

[9] Daniel Drake: Memoir of Dr. Godman [in] *Rambles of a Naturalist* by John D. Godman. . . . Philadelphia: Thomas T. Ash, 1833, p. 25.

[10] John D. Godman: [Announcement] *Western Spy and Literary Cadet* (Cincinnati), N. S. VIII: March 16, 1822, p. [3]-c.[3]; *ibid.*, June 22, 1822, p. [3]-c.[3].

. . . A country singularly interesting to the moral, medical and natural philosopher, reaches to the vast distances on all sides, and the progress of time will shew, that those who anticipate the future wealth and strength of this region, have not been mistaken in their views. . . .

Our chief object, is to awaken the lovers of science and admirers of nature, to an appreciation of the treasures which are profusely lavished around. . . . As a vehicle for the conveyance and diffusion of knowledge, and the means of bringing scientifick men, of the great north and south western sections of country into closer acquaintance, it will be always open for communications, on all proper subjects. . . .

The observations and essays of our scientific and professional inquirers, have hitherto served to adorn the journals published at a great distance. Now an opportunity is offered of giving them to the world through the medium of a paper, established in and for the West. . . .

As the manner in which our first attempt is to be received and estimated abroad, we feel undisturbed. . . . If there be some sneers at propositions we make, or plans we lay down—a sneer is not an argument, any more than assertion is proof. . . .[11]

The first issue of *The Western Quarterly Reporter* comprised 102 pages of which Godman contributed ninety-five either by original writing or by translation. The remaining seven pages were written by his one-time preceptor, Dr. Wm. N. Luckey. Article IV by Godman is in Latin, one of the seven languages he had learned through unaided study.[12] This essay, *De conceptu adnatationes quaedam*, is a discussion of a similar one, likewise in Latin, by Edwin A. Atlee.[13] It may have been pre-Victorian prudery that led Atlee to use Latin in discussing the occurrence of pregnancy in an atresia of the vagina which prevented actual entrance of the penis. Though admitting the difficulty inherent in handling Latin, Godman did a creditable job. He incidentally reported a case similar to Atlee's which his very dear friend, *Drake*, had brought to his attention " quem Medicus Drake nostras, mihi amicissimus, seduliter notavit."

How the westerners accepted the use of Latin must be left to the imagination. However, there was ample precedent. In Lexington, Kentucky, Harvard graduate William Gibbs Hunt (1791-1833) had begun, in 1819, *The Western Review and Miscellaneous Magazine*, . . . in which poems in Latin, Italian, and French are to be found.[14] For those in French, " the reader must supply the accents "! That roving genius and

[11] John D. Godman: *The Western Quarterly Reporter*, 1822, Vol. I: v-viii.

[12] Daniel Drake: *Memoir of Dr. Godman, loc. cit.*, p. 35.

[13] Edwin A. Atlee: De Conceptu. *American Medical Recorder* (Philadelphia), IV: 646-652, October 1821.

[14] *The Western Review and Miscellaneous Magazine, a Monthly Publication, Devoted to Literature and Science.* Lexington, Kentucky: William Gibbs Hunt, 1819.

delver into all knowledge, Constantine Rafinesque (1784-1842), supplied many of these poems.

THE

WESTERN

QUARTERLY REPORTER

OF

MEDICAL, SURGICAL,

AND

NATURAL SCIENCE.

SUPPORTED BY PHYSICIANS AND NATURALISTS OF THE WESTERN COUNTRY.

EDITED BY

JOHN D. GODMAN, M. D.

Member of the Academy of Medicine of Philadelphia, Honorary Member of the Medical Society of Maryland, Honorary Member of the Delaware Medical Society, Member of the Academy of Natural Sciences, Philadelphia, late Professor of Physiology to the Philadelphia Museum, Honorary Member of the Cincinnati Medical Society and of the Lexington Medical Society, &c.

VOLUME I.

CINCINNATI:

PUBLISHED BY J. P. FOOTE, NO. 14, LOWER MARKET-STREET, AND BY E. BLISS AND E. WHITE, BOOKSELLERS, NEW-YORK.

PRINTED BY MORGAN, LODGE AND CO.

1832.

FIG. 1

From the author's collection.

The second issue of *The Western Quarterly Reporter* consisted of 104 pages, Godman fathering forty-five. Drake came to his aid and arranged two communications for publication. In the third issue Drake first

publicly announced his intention of preparing a *Treatise on the Diseases of the Western Country.*[15] The story of Drake's travels and researches in the preparation of this medical classic published in 1850 has been told elsewhere.[16]

In the autumn of 1822 Godman returned to Philadelphia leaving behind enough material to permit publication of three more issues. Following his departure it seems likely that Drake supervised the publication of the last three issues. Of the six hundred pages comprising *The Western Quarterly Reporter,* Godman contributed altogether more than half. In 1823, when Drake accepted for the second time a professorship in Transylvania University, Lexington, it was announced:

> The publication of the *Western Quarterly Reporter,* has been transferred to Lexington, Ky., where it will be edited by Dr. Drake, assisted by those eminent men with whom he is associated in the Medical College, and its former editor Dr. Godman, now residing in Philadelphia. It will be published by W. W. Worsley, and there is little doubt that its usefulness will be increased and its circulation extended by the change of its location.[17]

This plan was never put into effect. As a result the whole series of *The Western Quarterly Reporter* consists of only six numbers, all of them published in Cincinnati.

Credit for the establishment of the second medical journal in the West, *The Ohio Medical Repository,* belongs to two physicians of Cincinnati, Guy W. Wright (1793-1831) and James M. Mason (1797-1837). This publication was a semi-monthly. Its first issue appeared on 1 April 1826, patterned after and similar in size to the *Boston Medical Intelligencer.* After the eighth issue, that for 19 July 1826, Dr. Mason retired from editorial duties and Dr. Wright continued it alone.

The Ohio Medical Repository contained some original material, although much was quoted. Entire articles were extracted from other journals, foreign as well as domestic. In this respect it resembled the other medical journals published in the United States at this time. Over twenty years later, commenting on the large amount of borrowed material in medical periodicals, Holmes said: "The ring of editors sit in each

[15] Daniel Drake: Treatise on the Diseases of the Western Country. *The Western Quarterly Reporter of Medical, Surgical and Natural Science* (Cincinnati, Ohio), I: 307-311, 1822.

[16] Emmet F. Horine: Daniel Drake and his Medical Classic. *Journal of the Kentucky State Medical Assn.* (Bowling Green), L: 68-79, February 1952.

[17] *The Cincinnati Literary Gazette,* I: 7, Jan. 1, 1824.

THE

Ohio Medical Repository,

OF

ORIGINAL AND SELECTED ESSAYS,

AND

INTELLIGENCE.

EDITED BY GUY W. WRIGHT, M. D.

"*SPECTEMUR AGENDO.*"

"The most useful work on the subject of Physic, is a collection of all the facts that relate to the art."—CULLEN.

VOL. I. 1826—7.

CINCINNATI;
PRINTED BY WILLIAM HILL WOODWARD, 210, MAIN-STREET, NEAR THE UPPER MARKET.
1827

FIG. 2

Courtesy of the Armed Forces Medical Library.

other's laps, with perfect propriety, and great convenience it is true, but with a wonderful saving in the article of furniture." [18]

In the issue of *The Ohio Medical Repository* for 21 March 1827, announcement was made that the promise of enlarging and improving the journal was being fulfilled.

> It is with extreme pleasure, we have in our power now to state, that DANIEL DRAKE, late Professor of the Theory and Practice of Medicine in Transylvania University, has united with the former editor of the *Repository*; and will, in future, devote his talents to the new series, much enlarged—assuming a new shape, and in every relation, an increased importance. In the great acquisition of talents to the editorial department, we have thought proper to alter the title and have called it "THE WESTERN MEDICAL AND PHYSICAL JOURNAL."

Thus this periodical was not strictly a newly founded one but merely a continuation, under a new name of *The Ohio Medical Repository*. The last issue under the original title was dated 18 March 1827, being No. 24 of Volume I. *The Union List of Serials* records but two complete files of this journal, one owned by the Army Medical Library and the other by the Boston Medical Library.[19] The late General Edgar E. Hume (1889-1952) once termed Godman's *Western Quarterly Reporter* "the rarest American Medical Journal." [20] This is manifestly incorrect since there are at least eight complete files of Godman's periodical but only two of the *Repository*.

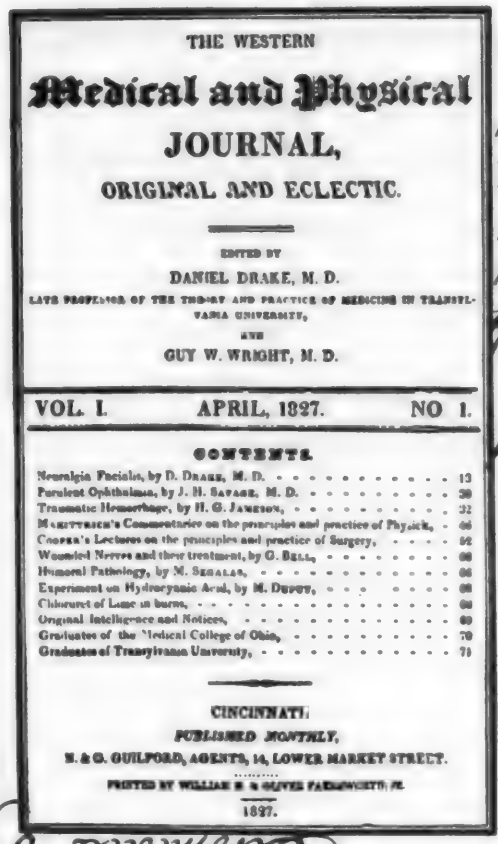
The first issue of *The Western Medical and Physical Journal* appeared in April 1827 and it was published monthly thereafter, arranged under the following headings: *original essays and cases; selected essays and cases; original reviews; selected reviews; selected intelligence* and finally, *original intelligence and notices*. This last section was made up of short editorials and sprightly comments about current essays and events. The proportion of original compared to borrowed material was similar to that in the eastern periodicals. In the sixth number it was announced that the subscription list had risen to more than 700.

Wright and Drake continued as joint editors of *The Western Medical and Physical Journal* for a year, i. e., to March 1828. In April 1828, the publisher (Edmund S. Buxton) announced the commencement of a

[18] Oliver Wendell Holmes, Chairman, Committee on Medical Literature. *The Transactions of the American Med. Assn.* Philadelphia: T. K. and P. G. Collins, 1848, p. 256.

[19] Winifred Gregory [Editor]: *Union List of Serials in Libraries of the United States and Canada.* 2d Ed. New York: H. W. Wilson Co., 1943, p. 2071.

[20] Edgar E. Hume: Early Kentucky Periodical Literature. *Annals of Med. History* (New York), N. S. VIII: 324-347, July 1936.



THE WESTERN

Medical and Physical JOURNAL,

ORIGINAL AND ECLECTIC.

EDITED BY

DANIEL DRAKE, M. D.

LATE PROFESSOR OF THE THEORY AND PRACTICE OF MEDICINE IN TRANSYLVANIA UNIVERSITY,

AND

GUY W. WRIGHT, M. D.

VOL. I. APRIL, 1827. NO 1.

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CINCINNATI:

PUBLISHED MONTHLY,

E. & G. GUILFORD, AGENTS, 14, LOWER MARKET STREET.

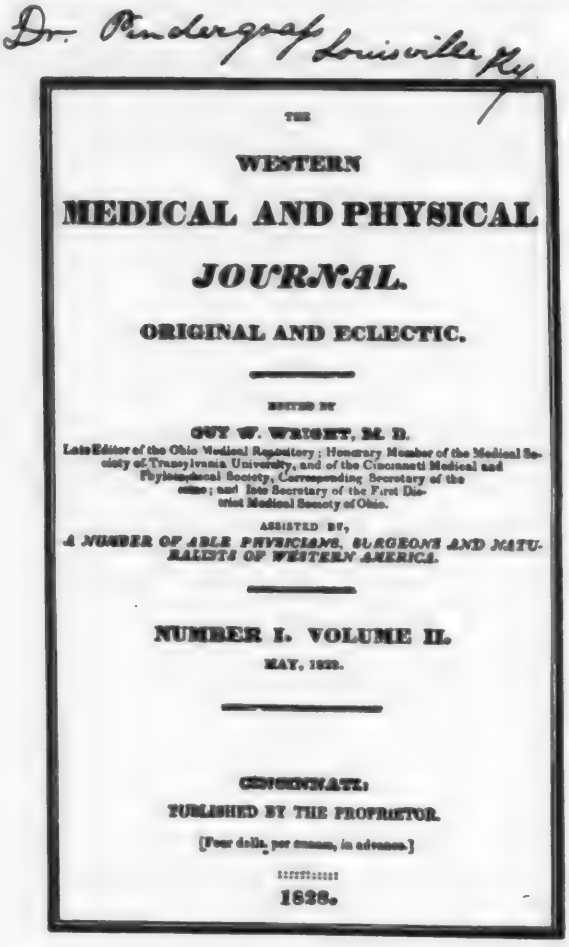
PRINTED BY WILLIAM H. & OLIVER FARNSWORTH, JR.

1827.

Fig. 3

From the author's collection.

new periodical, *The Western Journal of the Medical and Physical Sciences*, with Drake as sole editor.[21] The first number with the slightly altered


Dr. Pendergast Louisville Ky

THE

WESTERN

MEDICAL AND PHYSICAL

JOURNAL.

ORIGINAL AND ECLECTIC.

EDITED BY

GUY W. WRIGHT, M. D.

Late Editor of the Ohio Medical Repository; Honorary Member of the Medical Society of Transylvania University, and of the Cincinnati Medical and Physiological Society, Corresponding Secretary of the same; and late Secretary of the First District Medical Society of Ohio.

ASSISTED BY,

A NUMBER OF ABLE PHYSICIANS, SURGEONS AND NATURALISTS OF WESTERN AMERICA.

NUMBER I. VOLUME II.

MAY, 1828.

CINCINNATI:

PUBLISHED BY THE PROPRIETOR.

[Four dollars per annum, in advance.]

1828.

FIG. 4

From the author's collection.

title was promptly published in April 1828. Wide search has disclosed no reasons for the action of the publisher in having dropped Wright.

[21] Edmund S. Buxton [Advertisement], *The Saturday Evening Chronicle* (Cincinnati), II, No. 17: p. [4]-c.[4-5], April 26, 1828.

He announced that the rumor concerning the discontinuance of *The Western Medical and Physical Journal* was false, that an issue would appear shortly, and that he held against two of the printers an obligation for printing the second volume.[22] He did not mention Drake.

In May 1828 there appeared the second issue of the periodical edited by Drake and, at the same time, the first issue of Volume II of *The Western Medical and Physical Journal.* Wright was not only the editor but also the publisher. So far as I am aware, no one has previously called attention to the anomalous situation of there being two separate medical journals in Cincinnati at this time. Wright, in the May 1828 issue of his periodical, stated: "The Journal *will answer as a continuation of itself,* without the assistance of its *illegitimate offspring.*"[23]

In the files of these journals which I have examined, the May 1828 issue (Volume II, No. 1) of Wright's journal has been bound between the April and May 1828 issues of the periodical edited by Drake. The similarity in title has no doubt led to confusion and the failure to identify them as rival publications. No additional copies of Volume II of Wright's journal have been located and it seems probable that he withdrew from medical journalism. As a result of illness he was absent from Cincinnati for some time. Although he returned in October 1830 to resume practice,[24] his improvement was temporary and he died 24 January 1831.[25]

The discontinuance of *The Western Medical and Physical Journal* accounts for the fact that Drake later referred to his publication, with its slightly different title, as a continuation of the journal he and Wright had begun in 1827. Such a statement was historically not quite accurate.

In the newspaper announcement of the plan to publish *The Western Journal of the Medical and Physical Sciences,* a fully opened dogwood bloom bearing the inscription, *E sylva nuncius,* was used as an emblem. Because of Drake's early experiences in the forest and his continuing love for nature it appears most likely that he suggested the emblem. The use of the singular, *sylva,* appeared but once after which the plural was used, *E sylvis nuncius.* After several years the motto was lengthened to

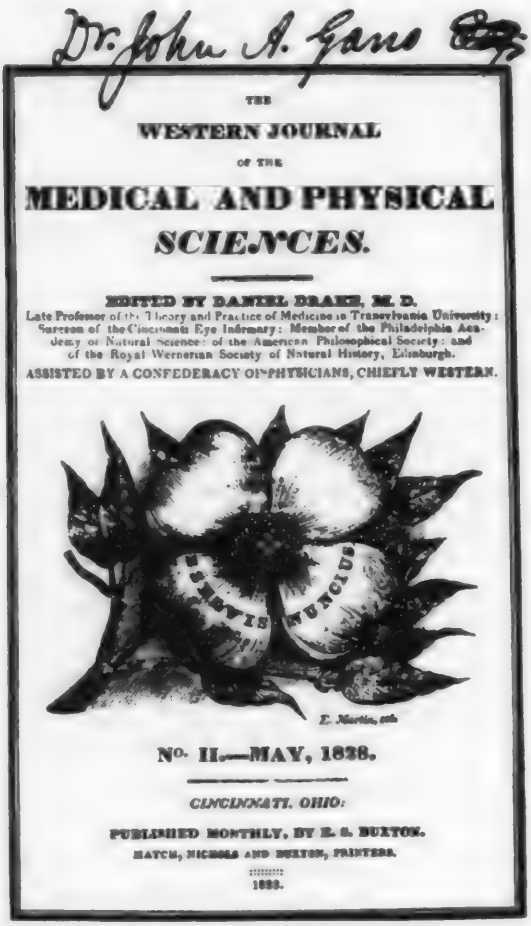
[22] Guy W. Wright [Announcement re], Western Medical and Physical Journal. *National Republican and Ohio Political Register* (Cincinnati), VI, No. 554: p. [3]-c.[3], April 29, 1828.

[23] Guy W. Wright: *Western Medical and Physical J.* (Cincinnati), No. 1 [of] Vol. II, May 1828 [back of cover].

[24] Guy W. Wright: A. Card. *Cincinnati Advertiser and Ohio Phoenix,* N. S., VIII, No. 86: p. [3]-c.[4], October 30, 1830.

[25] [Obituary], *ibid.,* N. S., IX, No. 8: p.[3]-c.[3], January 26, 1831.

E sylvis, aeque atque ad sylvas, nuncius. Monthly publication was discontinued with the issue for March 1829 and, in its place, a quarterly


Dr. John A. Gano

THE

WESTERN JOURNAL

OF THE

MEDICAL AND PHYSICAL

SCIENCES.

EDITED BY DANIEL DRAKE, M. D.

Late Professor of the Theory and Practice of Medicine in Transylvania University; Surgeon of the Cincinnati Eye Infirmary; Member of the Philadelphia Academy of Natural Sciences; of the American Philosophical Society; and of the Royal Wernerian Society of Natural History, Edinburgh.

ASSISTED BY A CONFEDERACY OF PHYSICIANS, CHIEFLY WESTERN.

E. Martin, sc.

No. II.—MAY, 1828.

CINCINNATI, OHIO:

PUBLISHED MONTHLY, BY E. S. BURTON.

HATCH, NICHOLS AND BURTON, PRINTERS.

1828.

Fig. 5

From the author's collection.

three times the size of the monthly appeared. The first copy in the new form came from the press late in June 1829 and contained 164 pages. The initial article was the first of a series of essays by Drake on medical

education and the medical profession in the United States.[26] This and similar essays which followed were printed in book form in 1832. Garrison declared these articles to be " far and away, the most important contributions ever made to the subject in this country." [27] As might be surmised, Drake's book on medical education has been, for many years, a collector's item. At the suggestion of Dr. David A. Tucker, Jr., the Johns Hopkins Press has recently made available a facsimile of this noteworthy volume. It has been sponsored by The Institute of the History of Medicine of Johns Hopkins University as Volume V of the Fourth Series of their important *Bibliotheca Medica Americana.*[28]

Drake showed the same imagination, industry, and perseverance in editing his publication as in all his other activities. From the beginning he was recognized as an able editor. Material from his journal was copied in many of the eastern periodicals. As Godman had done, Drake wrote a preponderant amount of the original material in addition to many book reviews and occasional translations from the French. In order to stimulate writing the following offers were made:

I. A receipt for the year's subscription to the journal, for every paper, of not less than four pages, which shall be deemed worthy of insertion.

II. One dollar a page, for every communication, exceeding four pages, which may, from its merits, be entitled to publication.

III. A premium of fifty dollars, for the best dissertation on each of the following topics:

1. The general principles of pathology and treatment of the diseases of negroes of the Southern States; with a particular application of them to the malady generally denominated Negro Consumption. . . .

2. The treatment of autumnal fever on the principles of Broussais; . . .

3. The remote cause and morbid anatomy of the disease denominated in the Western country the "*Sick Stomach*"; . . .

4. The successful application of the process of Civiale, to the destruction of the *calculus vesicae*, established by American cases.[29]

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[26] Daniel Drake: Practical Essays on Medical Education and the Medical Profession, in the United States. *Western J. Med. and Physical Sciences* (Cincinnati), III: 13-27, April, May, and June 1829.

[27] Fielding H. Garrison: *An Introduction to the History of Medicine.* 3rd Ed., Philadelphia: W. B. Saunders Co., 1924, p. 465.

[28] Daniel Drake: *Practical Essays on Medical Education and the Medical Profession in the United States.* With an introduction by David A. Tucker, Jr. Baltimore: The Johns Hopkins Press, 1952.

[29] Dainel Drake: To the Physicians of the Western States. *Western J. of Med. and Physical Sciences.* (Cincinnati) II: v, August 1829.

With meticulousness Drake also prescribed certain rules for the preparation of papers. These are as sound today as they were over a century ago:

> . . . The first essential is *truth*. Everything that is published in a journal of medical science, should, as far as possible, be divested of error; for it may all, sooner or later, influence the treatment of the sick, whose lives might be jeopardized, in consequence of perversions or suppressions of the truth. The next great requisite is *Perspicuity*: that what the writer has observed and thought, may be readily and clearly comprehended. The next is *conciseness*; which many readers would, in reality place at the head of the column of good qualities:—And it cannot be denied, that they would have much reason on their side; for the quantity that is published, in the journals, and detached works, of the present age, is really enough to deter the timid and the indolent, from all reading. *Originality*, is another important property, which should never be wanting. Mere learning, and laborious rumination of that which has been masticated by others, will neither advance the interests of the profession, nor satisfy readers of good sense. Finally, those who write for medical journals, should not consider the minor rules of composition beneath their attention. If advanced in years and reputation, their example will be authoritative, and should, therefore, be a good one: If young, they should seize every occasion to improve themselves in the art of writing. Indeed no member of the profession, either high or low, should consider himself at liberty to disregard the laws of *orthography, etymology, syntax and collocation* in anything which he presumes to address to his brethren. Lastly, in mercy to editors and compositors, he should write (or procure to be written) an unaffected and legible hand; without which, he has, in fact, no guaranty, that the printed will be a correct copy of his written communication.[20]

Mortality among medical journals at the time was extremely great. Drake's journal passed through many crises and frequently changed publishers. At times he had unexpectedly to assume the triple role of proprietor, editor, and publisher. Commenting upon one such experience, Drake wrote:

> Since we commenced editing this work (the oldest periodical journal in the West) in 1827, we have been so often turned over, that it seems to us as a matter of astonishment, that we have not been overturned. Counting on our fingers (in any thing but a poetic reverie) we find, that already, before the completion of our ninth volume, we have owed allegiance to nine publishers! Thus, if our editorial vitality had not been truly feline, we should now be defunct. . . .[21]

In 1830, after accepting the professorship of medicine in Jefferson Medical College, Philadelphia, Drake sold his journal to Dr. James C. Finley who became Junior Editor of *The Western Journal of the Medical*

[20] *Ibid.*, II: iii-iv, August 1829.
[21] Daniel Drake: Our Periodical. *Ibid.*, 2d Hexade, III: 521-524, Jan. 1836.

and Physical Sciences. During Drake's absence from Cincinnati during the winter of 1830-31, Finley carried on alone.[32] It appears that Finley was a capable assistant and no doubt Drake was reluctant when he relinquished his editorial duties and left Cincinnati in 1833.

In April 1835 Drs. Charles R. Cooper and Silas Reed, who had taken over *The Western Medical Gazette*, originally started in 1832 by the Faculty of The Medical College of Ohio, united their subscription list with that of Drake.[33] Cooper and Reed were made assistant editors. In December 1835 the periodical was purchased by N. S. Johnson and Wm. Wood.[34] Dr. William Wood now became Junior Editor, a position he held through 1836. Early in 1837 Drake again became sole editor but on the 20th July following, he announced that his journal was thenceforth to be "owned, published, and edited by the Medical Faculty of the Cincinnati College."[35] Drake with Drs. John P. Harrison (1796-1849) and Samuel D. Gross (1805-1884) constituted the editorial committee. The last issue of this periodical was that for May, June, and July 1838 (Volume XII, No. I).

In 1839 when Drake accepted a professorship in the Louisville Medical Institute (now the University of Louisville School of Medicine), he took his journal with him and united it with *The Louisville Journal of Medicine and Surgery* of which only two quarterly numbers had been issued in 1838. With consolidation of these quarterlies the name was changed to *The Western Journal of Medicine and Surgery* which became a monthly. The first issue appeared in January 1840 under the editorship of Drake and Lunsford P. Yandell, Sr. (1805-1878). At this time the Professor of Surgery in The Louisville Medical Institute, Joshua Barker Flint (1801-1864), was forced to resign because of alleged incompetence. This led to much uncertainty about the future of the college. After the crisis passed, Drake wrote an editorial entitled, *Our Delay*:

> *Dr. Franklin*, or some other sage, has said, that he who is good at an *apology* is seldom good for any thing else. That we may dodge the point of this sarcasm, we shall take care not to make the best apology in the world, for the suspension of our enterprise from January to June. Such as it is—here it comes. When our first

[32] Daniel Drake: To Subscribers and the Profession Generally. *Ibid.*, III: 610, Jan., Feb., and March 1830.

[33] Daniel Drake: Editorial and Publishing Arrangements. *Ibid.*, 2d Hexade, III: 154, April, May and June 1835.

[34] Johnson & Wood: A Word from the Proprietors. *Ibid.*, p. 532, Oct., Nov., and Dec. 1835.

[35] Daniel Drake: New Prospectus . . . *Ibid.*, 2d Hexade, V: 159-160, April, May, and June 1837.

number was *in transitu* from the printing to the post-office, some *premonitory symptoms of disease* in the LOUISVILLE MEDICAL INSTITUTE, began to show themselves, and soon became so threatening, that our publishers, with the prudence of sound business men, were inclined from the connexion between the *Journal* and the *Institute*, to lie by, till they should see whether the *forming disease*, was likely to inflict any serious *organic lesion* on the latter. The *morbid action* took its course, the *vis conservatrix* awoke, a *crisis* occurred, *convalescence* followed, and *sound health* is restored. The first fruits of this recovery are four numbers of the journal at one birth, with the prospect of a regular monthly delivery, for an indefinite time hereafter.[86]

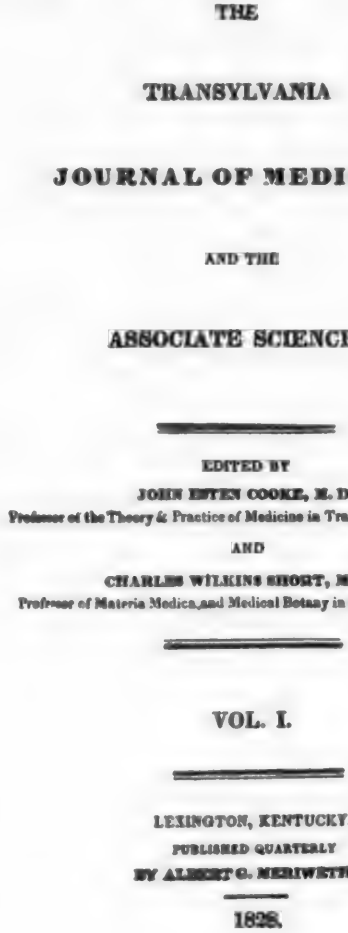
This periodical had an extensive circulation, especially throughout the South and West. Drake withdrew early in 1849, but *The Western Journal* was continued until 1855 when it passed into the hands of Samuel D. Gross, who renamed it *The Louisville Review*. Before the second number had appeared Gross accepted the chair of surgery in Jefferson Medical College in Philadelphia, and moved there in October 1856. After publishing one issue of *The Louisville Review* in Philadelphia, Gross united it with the *Medical Examiner and Record of Medical Science* to form the *North American Medico-Chirurgical Review* which was published from 1857 to 1861. Thus the periodical established by Drs. Wright and Mason in 1826 to which Drake fell heir and which he so ably edited passed through many crises. Having six names and three places of publication, it survived for a period of thirty-five years.

The last medical journal established west of the Allegheny Mountains to which your attention will be called is *The Transylvania Journal of Medicine and the Associate Sciences* published at Lexington, Kentucky, to promote the interests of Transylvania University. Its editors were John Esten Cooke (1738-1853), Professor of the Theory and Practice of Medicine and Charles Wilkins Short (1794-1863), Professor of Materia Medica and Medical Botany. The first number appeared in February 1838 and was followed by regular quarterly issues until 1839 when it was suspended.

The senior editor of *The Transylvania Journal,* Dr. Cooke, was a prolific writer and the author of a theory of disease which, because of its simplicity, had many adherents. Cooke believed, as did Benjamin Rush, that there was but one fever. Weakened action of the heart with resulting accumulation of blood in the liver and other abdominal viscera preceded fever and required drastic treatment, according to Cooke. His doctrine

[86] Daniel Drake [Editorial]: Our Delay. *Western J. of Medicine and Surgery* (Louisville), I: 359, February 1840.

was much less complicated than were the theories of either Cullen, Brown, Broussais, or Rush.[87] Calomel was Cooke's favorite remedy though he


THE

TRANSYLVANIA

JOURNAL OF MEDICINE

AND THE

ASSOCIATE SCIENCES.

EDITED BY

JOHN EWEN COOKE, M. D.

Professor of the Theory & Practice of Medicine in Transylvania University,

AND

CHARLES WILKINS SHORT, M. D.

Professor of Materia Medica and Medical Botany in the same Institution.

VOL. I.

LEXINGTON, KENTUCKY.

PUBLISHED QUARTERLY

BY ALBERT G. MERIWETHER.

1828.

Fig. 6

From the author's collection.

frequently resorted to other cathartics and to venesection. The famous *Cooke's Pills* which enjoyed a wide popularity for several decades were

[87] Elisha Bartlett: *An Essay on the Philosophy of Medical Science.* Philadelphia: Lea & Blanchard, 1844, p. 231 ff.

composed of two grains each of calomel, rhubarb, and aloes. He stated that he would have used calomel "to the exclusion of all other cathartics but for one evil consequence of its free use, ptyalism." Despite his fear of salivation, he usually administered calomel in doses ranging from ten to sixty grains and, at times, even in *four drachm* amounts repeated as frequently as necessary to secure proper stools! Elisha Bartlett (1804-1855) once aptly said that the votaries of Cooke

> . . . seem to have forgotten, that there is any organ in the body except the liver, and, in the management of disease, the only important points to be determined are what is the *color*, the *consistence*, the *odor*, and the *quantity* of the stools. Diagnosis is wholly discarded, as a matter merely of idle curiosity.[38]

Charles Wilkins Short, Associate Editor of *The Transylvania Journal*, was a distinguished botanist with an international reputation. He carried on a vast correspondence with botanists everywhere to whom he had sent "not less than twenty-five thousand specimens of Western plants" by August 1836 and probably a far greater number after this date. More than half a dozen plants have been named for him. Short's best essays on botany are to be found in the Journal he edited. Without doubt his most important contribution consisted of a series of essays on the plants of central Kentucky: *Florula Lexingtoniensis, secundum florendi aetatem digestae.*[39]

The Transylvania Journal carried papers from all the members, especially Charles Caldwell (1772-1853) and Cooke, of the Transylvania University medical faculty. But it also contained many of the theses presented by the candidates for graduation. After four years Cooke and Short retired from editorial duties and Lunsford P. Yandell, Sr., newly elected Professor of Chemistry, assumed control. He continued as Editor until the 1837 upheaval of the Department of Medicine at Transylvania. Yandell then accepted a professorship in the Louisville Medical Institute and, assisted by Henry Miller (1800-1874) and Theodore S. Bell (1807-1884), established *The Louisville Journal of Medicine and Surgery*, which —as already mentioned—was consolidated with Drake's publication. Daniel Drake and Lunsford P. Yandell, Sr., each had almost a quarter of a century of medical editorship to his credit.

[38] *Ibid.*, p. 237.

[39] Charles Wilkins Short: Prodromus Florulae Lexingtoniensis, secundum florendi aetatem digestae. *The Transylvania Journal of Medical and the Associate Sciences* (Lexington, Ky.), I: 92-99, Feb. 1828; 250-265, May 1828; 407-422, August 1828; 560-575, Nov. 1828 and II: 438-453, August 1829. In addition to the above, Short published four supplements.

The rarity of the two journals first mentioned, *The Western Quarterly Reporter of Medical, Surgical and Natural Science* and *The Ohio Medical Repository,* has already been discussed. Although there are many incomplete collections of the other periodicals, apparently only ten perfect files of *The Western Medical and Physical Journal,* eight of *The Western Journal of the Medical and Physical Sciences* and but five of *The Transylvania Journal* are in existence.

The five periodicals were unquestionably factors of great importance in the development of medicine in the Mississippi Valley. Drake was ever on the alert to call the newer developments in medicine to the attention of his readers. He was especially enthusiastic in his reviews of Laennec's *Treatise on the Diseases of the Chest* and of Beaumont's "Gastric Juice." It is apparent that the western journals were on a par with the periodicals published east of the Alleghenies. Ably edited, the journals of the "backwoods" kept their readers abreast of the advances in medicine. Drake once wrote:

> I fervently hope that the profession in each city will cast away all jealousy and strife and evil speaking, and nobly emulate each other in those labors of observation, experiment, reading and publication, which are necessary to the building up of an enlightened and liberal profession in our highly favored land.[40]

[40] Daniel Drake: *Discourses, loc. cit.*, p. 91.

RUDOLF VIRCHOW AND TODAY'S PHYSICIANS AND SCIENTISTS

ALFRED PLAUT *

No comprehensive biography of Virchow has appeared in the half century after his death. This is astonishing when we consider his impact on medicine, but it is easily understood when we consider the magnitude of the task. So much has been written about Virchow, during his life and after his death, and the opinions vary to such a degree with the scientific, national, political, or philosophical position of the authors, that it is almost time to write a Virchow historiography while the history is not yet written.

When the old German Medical Society of New York had to change its name, it adopted the name Rudolf Virchow Medical Society, thus stating that this name symbolizes greatness in German medical science, that Virchow, in a way, is a hero of medicine. Human feelings toward heroes are ambivalent. On the one hand, we are proud that a man, somebody of our own ilk, has reached such heights. On the other hand, we try to tear them down from their pedestal so that we might not appear too small to ourselves. Both attitudes are reflected in the Virchow literature. We can learn much about ourselves by studying Virchow and the period that bears his imprint, which includes our generation. Many a parallelism will be found between the scientific and human climate of his times and of ours.

How was medicine before Virchow? How much of what medicine is today harks back to Virchow? Answering these two questions may tell us what we owe to him. It is more, let us anticipate that, than the founding of cellular pathology, and it far exceeds the sum of the cellular pathology and the numerous important discoveries he made in special pathology. Theoretical medicine, before Virchow, abounded in freaks that did not dare show their faces any more after Virchow's teaching had cleared the air. Some of the men of Romantic Medicine were highly learned, intelligent physicians and often keen observers. But where should it lead when Canstatt,[1] professor at Erlangen University, classified rabies,

* From Winter VA Hospital, Topeka, Kansas.—This paper was presented before the Rudolf Virchow Medical Society in New York City, on October 6, 1952.

[1] K. Canstatt: Quoted from Baas (*see* footnote 6), p. 734.

syphilis, and gonorrhea as cosmic diseases; when rickets were explained by C. R. Hofmann [7] as "exteriorization of the ideas of the invertebrate out of the totality of human life," or when the greatest pathologist of the time, and one of the greatest of all times, Rokitansky, talked about variolose, puerperal, hyperinotic, or albuminous crasis? The philosopher Schelling, who went to Bamberg in Bavaria to learn about medicine, voiced the opinion that "disease results when the lower principle excludes the higher principle, when parts that have life only by living in the whole try to exist by themselves." The theologically inclined professor of medicine at the University of Bonn, Windischmann,[8] explained all disease as an inflammation of the soul, and taught that there is an original disease just as there is an original sin. We cannot assess the reality value such words had for the people who wrote them or read them. But who can fathom how real was the devil for Martin Luther when he threw the ink well at him?

It is difficult for medicine to forget that it started out with the medicine men, let alone the fact that our psychosomatic era does not want to forget it entirely. We thus remember that medicine started out with animistic concepts. Diseases were evil spirits, and this idea survived longer than most people think. When Virchow fought against the theories which considered disease as a something, not belonging to the body but living in the body and of the body, then he fought against the remnants of animism. This was the historical meaning of defining disease as "life under altered conditions." If disease is an altered form of life and not a hostile foreign something, then it cannot be driven out by exorcism or by purging, but it can be combatted by changing the functions of the body or its parts. This definition was not original with Virchow, Henle used it before him, and similar statements have been made by several authors, including Hippocrates, who wrote that everything in the body goes on according to nature ("kata physin"). But Virchow, 2000 years later, finally carried the point and convinced the medical world of this truth. The cause of a disease can be driven out—a parasite, e. g., but not the disease itself. It is hard for us today to believe that eminent physicians in the middle of the 19th century still mixed up the two things, namely the disease and the cause of disease. Virchow did away with the confusion that was created by this flaw in thinking.

[7] C. R. Hofmann: Quoted from Baas (*see* footnote 6), p. 736.

[8] C. J. H. Windischmann: Ueber Etwas, das der Heilkunst Noth tut. Ein Versuch zur Vereinigung dieser Kunst mit der christlichen Philosophie. Leipzig, 1824. Reviewed by L. Boerne: *Gesammelte Schriften*, Stuttgart, 1840: 223-26.

He stood between two periods in medicine, that of deductive "Naturphilosophie" and that of inductive natural science. This linking of the two periods has been studied in the last two decades, notably by Walter Pagel.[4,5] He feels that Virchow was guided not only by his observations, but also by traditional philosophical ideas. Pagel shows that ideas similar to those of Virchow have been voiced by people who did not make actual observations. Jahn, who was 17 years older than Virchow, wrote in 1843: "Everything in the body consists of cells. There is no dynamical disturbance without material change. Hence any morbid change must be referred to a change in these elementary constituents."[5a] This is cellular pathology in outline. Virchow, as Pagel continues, filled in the empirical material and thereby made a philosophical theory acceptable to a scientific age. Thus it appears to Pagel that Virchow may have started with ideas taken from natural philosophy and then have looked for facts to prove them. I feel that the two ways of thinking probably are inextricably interwoven in different layers of consciousness. Virchow knew as little as anybody else whether he conceived an idea because he had made a certain actual observation or if, conversely, he was impressed by a microscopic finding because he had an idea in his mind. Charles Darwin once said that there is no good observation without a theory.

This line of thought helps in understanding some discrepancies in Virchow's writings. The term "ens morbi" he is using denotes an abstract philosophical attitude. His classification of formative, nutritive, and functional disorders always struck me as artificial. These terms, Pagel says, sprang directly from the classification of the naturalistic school which classified diseases as the botanist classifies plants. Virchow stubbornly retained the belief that the carcinoma cells come from the connective tissue, long after Waldeyer and Thiersch had given irrefutable proof of their epithelial origin; this may have been a kind of hangover from the blastema. Before the discoveries of Virchow, Remak, and Koelliker, it was assumed that cells were formed out of a homogeneous blastema; the connective tissues, that played such an important role in Virchow's work, may have taken the place of the blastema in his mind, without his being aware of this substitution.

The men of Romantic Medicine, like Oken, who were able to make

[4] Walter Pagel: Virchow und die Grundlagen der Medizin des neunzehnten Jahrhunderts. *Jenaer Med. Histor. Beitraege*, 1931, Heft 14.

[5] Walter Pagel: The speculative basis of modern pathology, Jahn, Virchow, and the philosophy of pathology. *Bull. Hist. Med.*, 1945, 18: 1-43.

[5a] Quoted from Pagel.

keen observations and at the same time to build aprioristic metaphysical systems, must have had their special kind of schizothymia. The great change came with men like Henle and Virchow who could not muster such schizothymia, but were psychologically unable to let their scientific right hand ignore what their philosophical left hand was doing. And Virchow had the power to cure his contemporaries of such schizothymia.

The medical historian, J. H. Baas,[6] wrote in 1876:

> The cellular theory, like all theories must be looked at as a historically determined expression of the scientific tendency of a given time, as a theory whose . . . thoughts are only in part new ones, whose life span as a whole is determined like that of all theories. . . . It is a permanent merit of the cellular theory, which it shares with few other earlier theories, that no special theoretical therapy has been built upon it, at least not by Virchow himself. It has remained with him what it was originally, a scientific theory.

Here we have an important difference between a statement when made as part of a philosophical system, as was done in Romantic Medicine, or when pronounced together with supporting accurate observations as was done by Virchow. To the aprioristic deductive mind of the Nature-philosopher his system was self-assertion, a justification of the kind of man he was, in short a religion; its main frame of reference was the author. The same statement made by the scientist represented the means of solving problems; the objects under investigation were the frame of reference, not the author. The ideas now had become tools of science without dogmatic aprioristic character. Henle wrote in 1852, that on account of the rapid succession of new observations, time and breath were failing for the setting up of systems, and he hoped that it might remain so for a while. Virchow did not set up a new system, but a principle whose usefulness can be tried out again and again, or as Weller [7] once put it, he developed a method rather than a theory.

It would not speak in favor of Virchow if today, after a century has gone by, all his theories were unchanged. The historical importance of a doctrine lies in the stimulus it furnishes for progress. This applies to interpretations, not to facts. Leukemia and amyloidosis, both discovered by Virchow, still are leukemia and amyloidosis today. And the example given by a great physician in his application and devotion to humanity and science is a more durable monument than facts and theories ever can build.

[6] J. H. Baas: *Grundriss der Geschichte der Medizin und des heilenden Standes.* Stuttgart, 1876, p. 780.

[7] C. V. Weller: Rudolf Virchow—pathologist. *The Scientific Monthly*, July, 1921, 33-39.

Endocrinology and Gestalt-psychology have brought us once more to a holistic attitude. But this is not a return to a pre-Virchowian standpoint, it is progress partly based upon what Virchow and his predecessors have accomplished. It is—to use the old simile—not a return to a point in a circle, but to a meridian in a spiral.

Enumerating Virchow's discoveries in pathology would be tedious; we take most of them for granted. Who remembers that he coined words like thrombosis and embolization, mycosis, amyloid, leucocytosis, leukemia, infectious diseases and the still current designations for many tumors? [8] We talk Virchowian in pathology and probably will continue to do so for a long time to come. It is customary to think of him essentially as the creator of cellular pathology, and cellular pathology is still with us. When we think of a functioning organ we think of its cells, of the secreting cells of the pancreas, the ganglion cells of the brain, the contracting cells of a muscle. When we look at a blood smear or a bone marrow smear, at a urine sediment or a section of a tumor, we study cells, in structural formations or singly. The almost unbelievably rapid change that took place in the teaching of pathology after the publication of the lectures on cellular pathology, and after the appearance of the translations, have never been equalled or approached by any change in our concepts and our teaching.

We, today, stress the individual life of the cells much less than Virchow did, and we lay more emphasis on their interaction. But Virchow did not ascribe as much independence to the single cell as some of his opponents maintain. Body and organs, morphologically and physiologically, still consist of cells for us, in health and in disease. Two of the great advances which medicine has made since Virchow's days are often mentioned as contradicting the cellular theory. Immunizing substances, people say, act through acellular fluids upon the body; this is a phenomenon of humoral pathology rather than of cellular pathology. Behring argued this way. But these substances are produced by cells and act upon cells. The cells remain, in serology also, the acting and the suffering units. Internal secretion with its hormones is similarly mentioned. But can anything show the power of a few cells better than do small organs like the parathyroid glands or the neurosecretory cell groups of the hypothalamus? We are extending the cellular doctrine and modifying it while building on it, but we are not doing away with it.

Time limits prevent me from going in detail into the important theories

[8] Rudolf Virchow: *Die krankhaften Geschwuelste*. Berlin, 1863, 67.

of Ricker [9] who led the attack on cellular pathology. He denies the separate function, even the separate existence of cells. In his opinion, everything in the body is done through the nerves that accompany the blood vessels. The cells do nothing, everything is done to them by the central nervous system. Speransky, a pupil of Pavlov, has developed similar ideas.

Ricker's mind has, on numbers of occasions, followed Virchow's thought without being aware of it, sometimes using Virchow's very words. In 1924 he gave his book the title *Pathology as Natural Science*. Virchow prided himself, justly I think, on having put medicine into the rank of natural sciences, following in the footsteps of his teacher Johannes Müller. In this Ricker tried to outdo Virchow while standing on Virchow's shoulders.

Our modern way of looking at the total organism rather than at its little components would be futile if we had not the intimate knowledge of the parts, and this knowledge was given to us by the cellular doctrine. If we want to improve upon our synthetic, holistic knowledge, we must unremittingly continue the study of pathological histology; for judging the whole without knowing the components is not good science.

Bringing modern physics into the contemplation of today's biological thinking (Claudius F. Mayer [10]), in my opinion, should not mean for pathology " a complete about-face . . . a turn from the dead human parts . . . to the living human body "; on the contrary: with the effacing of the old fashioned matter-energy-dualism, we can assign equal rank to all phenomena, whether morphological or functional.

A phenomenon like Virchow naturally became an object of discussion for the different ideologies of our time. Many people in Nazi Germany had a low opinion of him because he had been a liberal and a pacifist. One writer found an easy way out by declaring that Virchow was a Jew. Hans Virchow,[11] in 1933, felt compelled to refute this ridiculous statement. A little book, written in the late thirties, tried to make of Virchow a defender of naturopathy and homeopathy, which were so dear to the Nazi government. More serious work [12,13] came out of the Berlin Institute

[9] G. Rickert: *Wissenschaftstheoretische Aufsaetze fuer Aertze*. 2. Auflage, Stuttgart, 1951.

[10] Cl. F. Mayer: Metaphysical trends in modern pathology. *Bull. Hist. Med.*, 1951, 26: 71-81.

[11] Hans Virchow: *See* footnote 13.

[12] B. J. Gottlieb: *Das Problem des Lebendigen im aerztlichen Weltbild: G. E. Stahl, Hahnemann und Virchow*. Leipzig, 1943.

[13] P. Diepgen and E. Rosner: Zur Ehrenrettung Virchows und der Deutschen Zellforscher. *Virchow's Archiv*, 1940-41, 307: 457-489.

for History of Medicine in 1943. It also used Virchow in favor of naturopathy and homeopathy, and it dealt with his repeated statements about his being a vitalist. But I doubt if Virchow would agree with the author's interpretations. According to a book *Hippocrates or Virchow* [14] that appeared in Austria in 1940, Virchow has stolen his ideas from the French and the English. Politics and science were for him the arsenal from which he got the weapons for enforcing his materialistic ideas. Cellular pathology represents materialism, while humoral pathology is idealism. This book was severely criticized by Diepgen and Rosner [13] and by G. B. Gruber [15] shortly after it appeared. But when Ludwig Aschoff [16] was asked to write a book about Virchow during the Nazi era, he wrote fearlessly and truthfully. Behind the iron curtain, Virchow and the cellular pathology are not liked by everybody either. " The materialistic-dialectic approach in pathology " is the title of a Polish paper [17] that appeared in 1950. The author, who freely quotes from the writings of Engels, Lenin, and Stalin, demands that the vestiges of the cellular theory be eradicated from the writings of Russian and Polish pathologists. The fight against Virchow must not be pushed off the dialectic-material position because that would threaten the positive achievements in therapeutics and prevention. It appears almost harmless, compared with such statements, when an American Catholic pathologist [18] describes Virchow (whom he adores) as an anti-evolutionist.

Even assuming that cellular pathology was the main starting point of modern medicine, it was not sired by Virchow—so one hears—various authors before him said the same things. Many papers have been written about this question; they mostly smack a little of the derogatory even while they deny it, just as my own remarks unintentionally may have something of the apologetic. During Virchow's life, English and French priority claims were made, the latter tainted by the then prevailing Franco-German enmity. Careful medical historians could not substantiate much of these claims. Virchow's contemporaries have uttered several of his important ideas before him, notably Remak, Koelliker, Henle. But Koelliker,[19] the great histologist, wrote in 1859: " The turning point came

[14] J. Lartschneider: *Hippokrates oder Virchow.* Wien, 1940.
[15] G. B. Gruber: in *Goettinger Gelehrte Anzeigen,* 1941, p. 288.
[16] L. Aschoff: *Rudolf Virchow, Wissenschaft und Weltgeltung.* (Geistiges Europa) Hamburg, 1941.
[17] J. Krupinsky: The materialistic-dialectic approach in pathology. *Polski Tygodnik Lekarski,* 1950, 5: 1137-44.
[18] J. J. Walsh: *Makers of Medicine.* New York, 1915, p. 401.
[19] A. Koelliker: *Handbuch der Gewebelehre des Menschen.* Leipzig, 1859, p. 17.

with Virchow . . . his remarkable discoveries gave the mortal blow to the old doctrine of free formation of cells."

The thesis that disease is not some strange hostile being but is life under altered conditions, was perhaps as important in ushering in the new era as the theory of cellular pathology was. It originated by no means in Virchow's mind. People of the old school, in the word's worst meaning, have expressed the same thought. A *System of Medicine* published in 1841 by Ringseis,[20] the proponent of "Christian-German medicine based on holy scripture," mentions contemptuously "a class of pathologists who see in disease not a cause endowed with its own life but only a change, a modification of healthy life." This quotation shows two important facts: first that the idea of disease as life under altered conditions must have been well known, second how it was despised by people who believed that diseases were existing entities. Ironically enough, Ringseis' book was dedicated to the memory of Roeschlaub,[21] a man who stipulated the metaphysical foundations of medicine a priori and formulated them in 30 laws; but the selfsame Roeschlaub has been called a precursor of Virchow because he, too, considered the barriers between normal life and disease as arbitrary.

The most pertinent comment to this priority question can be found in Virchow's own remark that he was astonished about the success of the lectures on cellular pathology, because they contained so little that was new. He knew the history of medicine and the literature of his period well, and knew that his work did not come out of a vacuum; the cellular pathology would have been unthinkable without the factual groundwork of Schwann and Schleiden, and without the school of Johannes Müller.

Discoveries or ideas that have determined the course of science generally can be traced back, often in unexpected ways. The important man is not the one who saw first or thought first, but the one who recognized the importance of the observation or of the idea and thus gave mankind the benefit of it. As Verworn said in 1902,[22] we do not regard Heraclitus or Empedocles as the founders of the doctrine of evolution, but Lamarck and Darwin. We should perhaps apply the statistical method to the sayings of old authors. Instead of picking out the ones we are interested in and

[20] J. N. Ringseis: *System der Medizin.* Ein Handbuch der allgemeinen und speziellen Pathologie und Therapie; zugleich ein Versuch zur Reformation und Restauration der medizinischen Theorie und Praxis. Regensburg, 1841.

[21] J. A. Roeschlaub: Quoted from Baas, *op. cit.*, p. 674.

[22] M. Verworn: Rudolf Virchow. *Zeitschr. f. allgem. Physiologie*, 1902, 2:1-8.

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marvelling at their modern character, we ought to count how many other statements that do not fit today's opinions were made by the same men.

Virchow made so many important discoveries in which nobody disputes his priority that all these discussions are not too important for his fame. His name is almost on every page of pathological literature. But his fame rests more on the irresistibly convincing manner with which he combined clear detailed observations and basic general ideas, the ones supporting the others. This can be accomplished only by men who sense the need of their time. The crying need of his time was that of a satisfying general idea for the many recently discovered facts. He furnished it.

You hear people say: Pathological anatomy has exhausted itself; it once was important but the present and the future belong to physiology and to chemistry; Virchow was the exponent of morphology, what is he to us today? The first part of this erroneous statement can be answered briefly. Morphology, in my opinion, is alive and will live on with every new tasks and methods. The second part needs elaboration.

When people turn away from pathological anatomy and put the emphasis on function, then they try to fulfill what Virchow demanded for the future of medical science. He declared that pathological physiology is our real aim. He used a simile, saying that pathological physiology is the main fortress of medicine, while the clinic and the pathological anatomy are outlying bastions. In opening the first meeting of the German Pathological Society, he said: "We also want to know the happening of conditions not only the existing conditions." This development of pathology which Virchow visualized, namely the combination of pathological anatomy and pathological physiology, did not take place. He himself worked almost entirely in pathological anatomy. People have wondered about this discrepancy. One reason, in his subconscious perhaps, may have been the same Robert Meyer [23] recognized in himself, when he wrote: "because I believed that the morphology was inexhaustible and that my talents were more on the visible side of science." Virchow, in all probability was "visual."

But when we consider the amazing success Virchow had with his first experimental work, then we wonder only the more why he turned away from experimental pathology. In one series of experiments this young man annihilated the prevailing dogma that phlebitis dominates pathology and established the knowledge of thrombosis and embolization. It is to be hoped that further biographical research will throw light on this ques-

[23] Robert Meyer: *Autobiography*. New York, 1949, p. 103.

tion. Verworn pointed out that there were no ideas for cellular physiology in Virchow's time, and that therefore cellular pathology could develop only in the direction of anatomy.

If Virchow were alive today, he would rejoice in this development of pathological histology. Modern histo-chemical methods bring pathological histology and pathological physiology more closely together every year. More and more chemical susbtances can be made visible in and between cells; we even determine the localization of enzymes microscopically. The so far purely morphological concept of an organ, and with that the concept of localization, develops physiological aspects. If, e. g., one of these days we could make all the cells visible that produce acetylcholin, then we would have demonstrated an "organ" functionally as well as anatomically. Pathology is actually moving in the direction Virchow hoped for a century ago.

Was Virchow a vitalist? One could say that this question is beyond discussion since he repeatedly has called himself a vitalist. This would automatically increase the distance between Virchow's ideas and ours. The chapter on Virchow in Baas' textbook of the history of medicine,[24] published in 1876, bears the title "The Modern (Cellular) Vitalism." But the word vitalism, as Virchow himself said, had different meanings for different people, and it still has. Scientists shun vitalism because it is a failure as a working hypothesis. If the life force, as the transcendental vitalists say, is different from the forces we know in physics and chemistry, if it is not subjected to the same laws, then we have no hope of ever solving the riddle of life. This was not Virchow's attitude. His statements concerning the vital force, which are scattered over his long life, were sometimes ambiguous,[25] even contradictory, but he definitely rejected anything transcendental. The vital force to him was a specific combination of physical and chemical forces, connected with certain combinations of substances that are found only in the living cell. He thus derived the forces of life from ordinary other forces and did not consider them as standing outside physical law.

He never expressed this more succinctly than in the address he gave, at the age of 23, in military medical school,[26] when he said that life is only

[24] See Baas, *op. cit.*, p. 766.

[25] *See* Rudolf Virchow: Cellularpathologie. *Virchow's Archiv*, 1855, 8: pp. 18 and 22.

[26] R. Virchow: Ueber das Beduerfnis und die Richtigkeit einer Medizin vom mechanischen Standpunkt. Rede gehalten zur Feier von Goerckes Geburtstag am 3. Mai, 1845 im medizinischchirurgischen Friedrich-Wilhelms Institut in Berlin. Nach Virchow's Tod herausgg. von J. Orth, *Virchow's Archiv*, 1907, 188: 1-21.

an expression for a sum of phenomena, of which each single one proceeds according to ordinary physical and chemical laws. And 40 years later, he stated that the processes of life differ from physical and chemical ones only by their composition and by the internal manifoldness of mechanisms and effects.[27] He even considered it possible that another era might start objective research on the problem of life. Other, less clear cut, utterings of his were, in my opinion, overreactions against the naive hypermaterialism of some of his contemporaries. In 1855 he wrote:[28] "Life will always remain something special, even if one should have recognized down to the smallest detail that it is mechanically initiated and mechanically continued." This may be a lingering note of romantic philosophy. Once he actually lapsed into vitalism with the phrase "outside the molecular forces," a straight contradiction to his opinion that life had been formed by the mechanical cooperation of certain substances. This question of vitalism shows again how Virchow stood between "Romantic Medicine" and the modern science, in whose creation he played such an important role.

The title of Morgagni's book *De sedibus et causis morborum* has formulated two frames of reference for pathological investigation, namely, the localization of disease and the causation. Virchow continued Morgagni's work, making localization more definite by means of the microscope. He neglected, to a degree, the second part of Morgagni's title, and thus came into conflict with the bacteriologists. The bacteriologists, towards the end of the 19th century, paid attention only to the second part of Morgagni's title, and thus became onesided in their etiological concepts, neglecting localization and especially the importance of the nature of the host, the constitution. This represents, in a nutshell, the overmuch discussed struggle between Virchow and the bacteriologists.

We often hear that Virchow's stubbornness retarded the progress of bacteriology and thus of medicine; and there is a grain of truth in that. But his seemingly exaggerated wariness was also a boon to bacteriology and medicine. He prevented the premature acceptance of many so-called bacteriological discoveries: There was the bacillus of malaria, the bacillus of rheumatism, and many others which fortunately are forgotten today.

The ideas we have today about the role of microorganisms in the causation of disease are in many respects nearer to those of Virchow than to

[27] Quoted from K. Sudhoff: *Rudolf Virchow und die Deutschen Naturforscherversammlungen.* Leipzig, 1922, p. 261.

[28] Rudolf Virchow: Cellularpathologie. *Virchow's Archiv,* 1855, 8: 3-39.

those of his bacteriological opponents. He rightly warned against transferring experiences of immunization from one disease or from one species to another. He believed that all single types of sera would have to be tested diligently for some time to come, before mankind could reckon quietly with results of prophylactic investigations.[29] He anticipated the existence of toxins and endotoxins 20 years before they were discovered. He recognized the importance of Metschnikoff's work before the bacteriologists did. It was part of a tragedy that he did not recognize the correctness of Semmelweis' conclusions, but it is historically revealing that Semmelweis denied the contagious nature of cholera, in the year of 1861 when 19,000 people died of it in Berlin. Virchow tried to strike a balance between endogenous and exogenous factors, as we would call it today. He wrote in 1880:

> . . . it will be in vain to try to make me follow an extreme radicalism in the one direction or in the other. Thinking of heredity and of embryonic processes, I shall not forget the struggle of the adult against external causes, and vice versa, I shall not forget the inherited life because I see too many external causes.

In his desire to understand things thoroughly, Vichow was dissatisfied with our lack of insight into the mechanisms of microbial infection. We have only "a rough idea" as he said, and in the case of anthrax, e. g., we know hardly more about the mechanism of the infection than Pasteur and Koch knew 80 years ago. He did not love bacteriology, and the paucity of bacteriological papers in the programs of the German Pathological Society may hark back to this dislike. But his insistence on the dominating role of the constitution of the host has helped to make bacteriology fit better into the overall picture of modern medicine, than easy acceptance of all the discoveries could have done.

Virchow's attitude in the question of the tubercle bacillus is a mystery. I lack the historical and the psychological training to grasp it. He had declared that the experiment was decisive for accepting a microorganism as the cause of a disease. He had enthusiastically accepted the cholera vibrio without the experimental evidence. Why did he balk at the tubercle bacillus? He did not reject it as people seem to think. In 1882 he wrote a letter to the ministry of culture in Berlin pointing out the importance of Koch's discovery. But as Friedrich von Mueller [30] reports in his autobiography, Koch demonstrated his discovery in the small circle of the physiological society rather than in the large medical society, because Virchow presided in the latter. Virchow would not concede that a chronic

[29] Rudolf Virchow: Zum neuen Jahrhundert. *Virchow's Archiv*, 1900, 159: 1-23.
[30] Fr. v. Mueller: *Lebenserinnerungen*. Muenchen, 1951, p. 57.

fibrosing tuberculosis and a cheesy pneumonia belong to the same disease. Was that too much for his morphological conscience? Or was he perhaps subconsciously influenced by departmental jealousy, or personal motives?

He was, however, as hypercritical in fields where no such explanation prevails. He was convinced that the theory of evolution was correct. He designated evolution as a logical and moral postulate. But when Ernst Haeckel demanded that Darwinism should be taught in secondary schools, he objected so sharply that people called him a reactionary. Some people, to this day, erroneously believe him to have been against Darwinism. The situation was similar with regard to the question of Pithecanthropus and the Neanderthal man. Truth was so holy to him, he was so much afraid of hasty conclusions, especially in questions that concerned all mankind, that he overshot the mark in his wariness and criticism. We may try to be as careful of facts as he was and not to go too far in criticizing. One remark he made during these hot debates is characteristic of him; he wrote: "He who teaches us to develop a fungus out of a bacterium will have accomplished more than all the heralds of the genealogical tree of man." He wanted controllable facts for important decisions, he was mortally afraid of premature synthesis.

W. Osler [81] once complained that in American medical meetings the older men are conspicuously absent, and he pointed to Virchow's regular attendance. Societies played a great role in Virchow's life, and he played an enormous role in the medical and scientific societies of his era. As his pupil Orth put it, Virchow and the Berlin Medical Society had grown together in such a way that one could not think of one without the other. As a scientist he was highly gregarious. He was instrumental in founding and in running societies. His powerful urge to be in touch with people, to influence them, found an outlet in scientific meetings, especially in the general sessions of the "Gesellschaft Deutscher Naturforscher und Aerzte." One must know something about this society and Virchow's relation to it, if one wants to understand Virchow and his period, and what he means to us today. For this, in turn, one should call to mind the German situation in the first half of the 19th century.

A war had been won; a coalition of powers had subdued the tyrant Napoleon who had threatened the whole world. There had been much bickering about the spoils at the Congress of Vienna, and those who had borne the brunt of the fighting had not come off too well. People in Germany had hoped that liberty, democracy, and unification would follow

[81] W. Osler: Rudolf Virchow, the man and the student. *Boston Med. and Surg. J.*, 1891, 125: 425-27.

the victory but they were disappointed. Reaction became rampant; within a few years, in 1819 at Karlsbad, the governments issued decrees that suppressed the liberty of the press, of the universities, of the students. Fraternities whose slogan was a unified democratic Germany had to go underground, and many fine fellows were thrown into jail. A central committee of investigation was instituted for the ferreting out of plots against the state—they never found one. Seven professors were dismissed from the University of Goettingen in 1837 because they refused to sign a (loyalty) document which they considered as constitutional.

A liberal professor, at the University of Jena, Lorenz Oken, was asked in 1817 either to stop publishing political articles or to resign. He resigned. A few years later, he had the idea of founding a society of German scientists, patterned on the recently founded Swiss society. The first meeting, a very modest one, took place in 1822, the names of the members had to be kept secret, because such an organization was looked upon with disfavor by the governments. This was the first step to a spiritual unification of Germany, it was meant to be followed by a democratic political unification in 1848, which unfortunately failed. This combination of science and philosophy with the ideas of German unity and of liberal democracy characterized the new "Gesellschaft Deutscher Naturforscher und Aerzte." It fitted the mood of the young Virchow, and the old Virchow remained faithful to it. Throughout the second half of the century he was this society's guiding spirit, succeeding Alexander von Humboldt in this capacity. He attended 26 meetings and gave 17 long talks, most of them not about pathology. The general meeting was more important to him than the section meetings. When Oken founded the society, German science was "in its diapers," was inferior to French science. The striving for good German science was an integral part of Oken's nationalism. Virchow kept this tradition, several of his talks dealt with the relation between science and the state or the nation. The desire for a united Germany fitted into the general philosophical trend towards unity. The word "Einheitsbestrebungen" had a magic power for Virchow. In this, as in other respects, he was a child of the early 19th century. We, notably the younger ones amongst us, need an effort to see something good, liberal, democratic in nationalism. We have seen too much of its dirty facets, and the spirit of 1848 is not felt any more. For Virchow, national unity always remained a spiritual concept. In 1871 he admonished the citizens of the new empire, saying that "people must feel that they belong together, not on account of a common ancestry, which perhaps they do not even have . . . but on account of a spirit in which they live

together." [82] We in the United States understand this, for no country has brought a heavier sacrifice in order to preserve its unity.

The relations of the scientist to the people and to the state have lately become a grave concern of American scientists and physicians. Thus the titles of Virchow's lectures sound quite up-to-date: "About the Influence of the Teaching of Natural Sciences upon the Cultural Level of the People," "About the National Development and Importance of the Natural Sciences." In 1871, after the founding of the Empire—he had wanted it different—he talked "About the Task of the Natural Sciences in the new National Life of Germany." Two years later his topic was: "The Natural Sciences in their Importance for the Moral Education of Mankind." In this remarkable lecture, he spoke of "internal morality," which in his opinion was more than the external morality as taught by the churches. Internal morality, according to Virchow, is what enables the individual to find his way in a difficult conflict. And, he continued: "Gentlemen, don't let us fool ourselves, the difficulties of modern states and societies consist essentially in the increase of such conflicts. . . . War still exists because man does not have a real inner morality." [83]

In another lecture, he dealt with: "The Liberty of Science in the Modern Life of the State." "The Connection between Natural Science and Medicine" was the title of his next talk. This connection was, in his opinion, one of the main advantages of the German society, even over the British one. He loved the English word "physician" because it symbolizes this hallowed connection.[84]

Oken, the founder of the society, Humboldt who was its mentor for 30 years, and Virchow—they all believed that the establishment of personal relations between the members is an important task for a scientific society. Lectures and discussions on general topics, like the ones just mentioned, formed human links between the participants. Today's big meetings with huge halls, loudspeakers, projection of the printed word on the screen, depersonalized talking, and the paucity of general themes do not fulfill this function. This may be one of the reasons why our scientific congresses sometimes seem to take place more in the corridors than in the lecture hall. It would be difficult nowadays for a man, even if he had Virchow's format, to exert so much influence through scientific meetings.

Popularization of medicine and science has grown tremendously, thanks to improved techniques of graphic reproduction. Virchow, believing that

[82] *See* Sudhoff, *op. cit.*, p. 108. [83] *See ibid.*, p. 124. [84] *See ibid.*, p. 250.

the physicians and scientists must be the educators of the people, wrote and lectured not only for his colleagues, or, as was done in the 18th century, for princes and noblemen, but for everybody. He founded, together with Holtzendorff, a collection of popular scientific lectures, and wrote several himself. He lectured for merchants' clubs and craftsmen's societies, and he derived a deep satisfaction from it.

This brings us to a problem in which Virchow's importance for our times is evident, namely the social conscience of the physician and scientist. He may not have known the term "ivory tower," but he would have despised it. He was always down on earth, in the middle of the fight. The physician, in his opinion, is the advocate of the poor; the scientist is the great helper of mankind. He, like Pasteur and Ehrlich, knew no difference between pure and applied science. Man was to him the measure of all things, medicine was to him "the science of man, anthropology in its widest meaning and thus ideally the highest natural science."

The necessity of the physician's and scientist's social, political, and international conscience is brought home to the present generation by the horror of the atomic bomb. To most people today, the social conscience of science is a new factor in the country's makeup. Rudolf Virchow, in this point, as in many others, was far ahead of his time. His social conscience was awakened by the misery he saw in upper Silesia when he was a young man, and it remained his primal experience, his "Urerlebnis" as it is called in art and poetry. The horror of epidemic and starvation among the poor, neglected, ignorant Polish people in Silesia showed him the intimate connection of medico-hygienic, sociological, political, and ethnical problems, and this remained the guiding idea throughout his long life. But he had to be the eager, impulsive young Virchow in order to react in this manner. He lived through the revolution of March 1848 with this horror picture fresh in his mind, and with this resentment against the guilty negligent Prussian government. This imprint remained.

He felt that physicians and scientists are responsible for mankind just as today's atomic physicists do. One cannot evoke Virchow's spirit better than by trying to combine the medical and scientific with the social and the generally human. This was the hallmark of his lifework, and this is how I see Virchow's message to us: for his special colleagues the pathologists: to be the scientific conscience of the clinician; for the practicing physician: to be the helper and advocate of the poor; for all scientists: to be fighters for the progress of mankind in every way, to be active citizens of our country and responsible citizens of the world.

A CARDIOLOGY ANOMALY
ALBERT ABRAMS (1863-1924)

NATHAN FLAXMAN

At the turn into the twentieth century a small book of 170 pages on the diagnosis and treatment of the diseases of the heart was published (1). On the title page the author was listed as Albert Abrams, A. M., M. D. (Heidelberg), and F. R. M. S., Consulting Physician for Diseases of the Chest, Mount Zion and the French Hospitals, San Francisco.

Being particularly interested in all books on the heart, especially cardiac texts published since the first by De Senac (2), I found the work of Abrams profoundly interesting because of his later notoriety. Some of his apt remarks seem intriguing, for instance:

> An unprincipled physician could reap a harvest, by putting in condition for re-examination many rejected applicants, diseased or otherwise, for life insurance (3).

In view of his later spurious fame, the statement seems all the more remarkable. However, Abrams was well acquainted with the cardiac literature, for he quoted Peacock (4) on rupture of the heart valves after sudden strain. Some of the sentences in Abrams book have the pure quality of medical aphorisms, as:

> No fallacy in medicine has been more carefully nourished than the belief that a cardiac murmur is always indicative of heart disease (5).
>
> The murmur of mitral obstruction is the only murmur which has a specific character (6).

Early evidence of Abrams' mechanical inclinations appeared in this book. He used chest x-rays, presented a modified stethoscope, a rod to measure the intensity of the heart tones, a pneumatic cabinet for lung gymnastics, and a stethophonometer. These were not entirely new as he had written articles on them previously. That he had cardiological insight may be surmised from this statement:

> Unfortunately the belief yet survives, that the demonstration of a cardiac murmur, is the signal for digitalis, notwithstanding compensation is present (7).

An important passage in this book suggests a clue to his personality:

> A few years ago I exhibited before the California State Medical Society a series of lantern slides illustrating cardiac lesions diagnosed by the aid of Roentgen Rays.

Many of my auditors no doubt regarded my exhibit as manufactured evidence, whereas, others, less captious, were inclined to regard the demonstration as a joke (8).

The book itself is concise, to the point, up-to-date as of 1900, and easy to read. Except for his own articles, there is no bibliography. At the time it was published, Abrams lived at the southwest corner of Van Ness Avenue and California Street in San Francisco. This house was destroyed in the earthquake and fire of 1906. Previous to and after the publication of his *Diseases of the Heart,* he was a very frequent and constant contributor to medical literature.

Albert Abrams was about 36 years old at the time the book on the heart appeared in print. He may have looked back on a difficult climb to a small pinnacle of success in medicine. One could easily have said that here was a man to make his mark in medicine in the twentieth century. This he certainly did, not as an esteemed physician of renown, but, rather, as one who has been termed " the outstanding medical quack of all time (10)."

Man and Doctor

Born in San Francisco to Marcus and Rachel (Leavy) Abrams, even the date of his birth became a debatable issue later. In 1860-5, the period in which his birth fell, San Francisco possessed considerable polish, being already the world's wife, but she was just a little sensitive about having been, before that, the gold-miner's wife. San Francisco admitted the frontier, but she desired friendly recognition as a metropolis-in-the-making (9).

Abrams himself gave the date of his birth as December 8, 1862 or 1863, or 1864, in answer to questionnaires sent to him over the years by the *Directory* of the American Medical Association (10). The 1863 date has been accepted as the correct one. Little is known of his family, his childhood, and early education. He attended and graduated in medicine from the University of Heidelberg in 1882. From this fact alone one may assume that his family had sufficient means not only to send him by Union Pacific, the first transcontinental railroad completed in 1869, and by boat to Germany, but also to maintain him there.

Years later, a doctor who signed himself " M. D., Leipzig " stated that it was preposterous to assume that anyone could obtain an M. D. degree from a German University at the age of 19 years (10). However, Polk's *Medical and Surgical Register* of 1886 listed him as a Heidelberg graduate of 1882, and of Cooper Medical College in 1883. Records from

the two institutions confirmed the dates (10). Just how long he attended Heidelberg before he was granted the degree was not known. The fact remains that Abrams graduated from Heidelberg at the earliest at which any man had taken a Doctor's degree at that university in 100 years. This in itself indicates a precocity that might have forecast his later achievements.

In a letter from Heidelberg, published in April, 1883, which was the first of a great many writings that seemed to flow from his facile pen, Abrams discussed the medical curriculum, courses, and teachers at that institution (11). This raises the question of how he obtained the M. D. degree at Cooper, the predecessor of Stanford University Medical School, in 1883. For in his second article, he gave his address as Neue Fredrichs St., Berlin (12). In his third article the same address was given as of March, 1884 (13). His San Francisco address did not appear until the fourth article in June, 1884 (14). Most likely, he returned home in the summer of 1882 and attended Cooper during the 1882-3 session. Then he probably went abroad again, to Berlin, for post-graduate work during 1883-4.

Albert Abrams was a man of exceptional intelligence and productivity, dapper to the degree of wearing a toupee and a cropped beard, but vain with driving ambition (15). In the early years of practice he was handsome with black, curly hair cropped short, aquiline features, pince-nez glasses on a ribbon, and a Van Dyke beard. He quickly built up a large and well paying practice, taught, and wrote both medical works and fiction. He also served as physician to an orphanage, but Harris (15) stated that the children feared his rough and almost brutal handling. For the first 15 years, however, Abrams held the respect of his colleagues and the loyalty of Lane and Cooper Medical College (15). In 1882, Cooper, also known as the Medical College of the Pacific, was located at Webster and Sacramento Streets. The school had been founded by Dr. Levi C. Lane and named for his uncle, Dr. Elias S. Cooper. Abrams became the President of the Alumni Association in 1888, but more important was the fact that he held the rank of Professor of Pathology there from 1893 to 1898. The esteem in which he was held in those early years seems also attested by his election to the presidency of the San Francisco Medico-Chirurgical Society in 1893 and as Vice-President of the State Medical Society of California in 1894. In the late nineties, shortly before the appearance of the cardiac text, his eccentricities became generally known to his colleagues.

His Writings, 1883 to 1901

The little book on *Diseases of the Heart* seemed to mark a turn on the medical highway for him. Previous to this he was the author of numerous articles and books on a variety of subjects. There were case reports on carbon monoxide poisoning (14), floating kidney (16), azospermia (17), tetany (18), poisoning by chlorate of potash (19), pulmonary atelectasis as a cause of anemia (20), lung syphilis (21), gastroptosis and mercycismus (22), gonorrheal endocarditis (23), facial hemiatrophy (24), brain tumor manifested by Jacksonian epilepsy with operation (25), and progressive pernicious anemia with malignant disease of the stomach (26). He also wrote on the prophylaxis of trichinosis (27), the pneumatic cabinet and its use in the treatment of pulmonary diseases (28), mistakes in diagnosis (29), on physiological pulmonary atelectasis (30), congelation (31), new methods of demonstrating tubercle bacilli in the sputum (32), neuroses of the lungs (33), and pneumotomy (34).

His outstanding contribution of the nineteenth century, however, was the demonstration of the value of the x-ray in cardiac diagnosis (35).

Prior to the appearance of his first book, Abrams published an 18 by 15½ inch card on a *Synopsis of Morbid Urine* (35). The *Manual of Clinical Diagnosis* (37) appeared when he was 27 years old. In this he was listed as Pathologist to the City and County Hospital of San Francisco. A second edition of this manual was issued in 1891 and a third edition in 1894. It was dedicated to his esteemed friend, Dr. Joseph O. Hirschfelder, Professor of Clinical Medicine at Cooper. In the preface of this manual Abrams showed a degree of modesty that belied his later years: "I have gathered a posie of other men's flowers, and nothing but the thread that binds them is mine own."

Six years later the publication of his *Diseases of the Heart* enhanced his reputation over the country. A little later he contributed to volume 5 of *A System of Physiologic Therapeutics* edited by Dr. Solomon Solis-Cohen (38). Abrams wrote on prophylaxis, personal and civic hygiene, and care of the sick. Other contributors to the ten volume series, among the noted American, English, French, and German authors, were Joseph McFarland, Henry Leffman, and Wayne Babcock, all of Philadelphia.

The F. R. M. S., listed on the title page of *Diseases of the Heart* by Abrams, later became a controversial issue. It was not present in his *Manual of Clinical Diagnosis* or in his listing as a contributor to *A System of Physiologic Therapeutics*. In 1922, when Abrams was defended

vigorously, along with the F. R. M. S., by the writer, Upton Sinclair (39), the *Journal of the American Medical Association* stated there was no organization known as the Royal Medical Society of Great Britain.

In the same year that his book on the heart appeared, he had another small book set in print. This was entitled *Scattered Leaves from a Physician's Diary* (40), and contained 59 pages. It is difficult to decide whether it should be classed as fact or fiction, since the language is flowery, repetitious, and redundant. Perhaps it represented his alter ego. The diary was "dedicated to my wife (he married Jeanne Irma Roth of San Francisco on Thanksgiving Day, 1897) in whose company, during a tour of the world, these stories were written." Under Leaf I, "My First Patient," he stated, "Much to my sorrow, I soon learned that only the rich and influential physician could afford to diagnose an obscure disease and call it by its technical term."

A good example of the effusive tone, as compared to the plainer language of his book on the heart, appears on the first page of this so-called diary.

> One day, (Abrams wrote) when the gastric vacuum was becoming pronounced, and when the coloration of my feelings was assuming a cerulean aspect,—.

On Leaf II, entitled "A Scientific Courtship," there is the first important clue to the method and type of quackery that Abrams adopted and adapted some 12 to 15 years later. Whether this material represents truth or fiction I have not been able to determine. The scientific courtship refers to a Dr. Edmond Laidy, a colleague and clever heart specialist (could Abrams have been referring to himself?), who "on the evening of his return to his home, . . . became interested in an article from the pen of a German investigator; the article was entitled 'How to Prognosticate Longevity by a Microscopical Examination of the Blood' by Dr. Carl Ruprecht."

The diary contains also such unrelated items as A Modern Aesculapius, A Mystery of the Latin Quarter, The Imagery of Love, The Euthanasia Club, A Study in Light and Shadow, A Martyr to His Profession, and The Professor of Bacteriology. There is no doubt that some, if not all of these were fictional phantasy, but where the truth leaves off and fancy takes over cannot be determined. Perhaps Abrams himself reached a point where he could not differentiate between them. To the demagogue, the ability to distinguish between true and false, ethical and unethical, moral and immoral, has disappeared into the shadows. Peculiarly enough,

this very same diary of 1900 was reprinted between hard covers in 1923, with an added feature, illustrations by William Gropper (41). After all the denials made by Abrams of his unusual interest in monetary returns, one cannot help but feel that this was a direct attempt to cash in on his notoriety.

His Writings After 1900

A series of ten articles on the diseases of the lungs and pleura (42) appeared after the cardiac text was published. In the same year there was one on the portraiture of medical practice (43). His interest in physical diagnosis, a field in which he excelled, was considerable, if judged by the amount he wrote on the subject. This led him into studies of the reflexes, the background for the later controversial issues. His best work was done with the fluoroscope in discovering the heart (44), and lung (45) reflexes. These, the recession of the ventricles or the lightening of a small area of the lung following stimulation of the overlying skin, he would demonstrate with zeal and pride. He taught maneuvers for the elicitation of the pleural friction sound (46), wrote on inhibition of the heart as an aid in diagnosis (47), described a new physical sign in dislocation of the heart (48), discussed the Litten phenomenon (49), the tracheal traction test (50), incipient pulmonary tuberculosis (51), and aneurysms of the thoracic aorta (52).

Articles on a variety of other subjects, besides those on physical diagnosis and the reflexes, flowed steadily from his unceasing pen after 1900. These were on stethophonometry (53), the treatment of the heart in typhoid and other infectious diseases (54), nutrition in pulmonary diseases (55), bronchial phthisis (56), cardioptosis (57), the classification, diagnosis and treatment of tuberculosis (58, 59), cardiosphanchnic phenomenon (60), the vasomotor factor in the clinical measurement of blood pressure (61, 62), sphymography of the abdominal aorta (63), new clinical phenomena (64), podography (65), amyl nitrite in hemoptysis (66), inhibition of asthmatic paroxysm (67), autointoxication and indicanuria (68), pharmaco-diagnosis of cardiac diseases (69), treatment of exophthalmic goiter (70), duodenal intubation (71), diagnosis and treatment of diseases of the heart (72, 73), augmented blood pressure (74), and symptomatic atelectasis (75).

In addition, Abrams wrote four more books in the period between 1901 and 1911. The first, during that period of unusual productiveness, was one of 49 pages on the *Nervous Breakdown* (76). The second, on *The Blues* (*Splanchnic Neurasthenia*) (77) was of 240 pages, enlarged

to 254 in the second, to 287 in the third edition, all in the short space of four years. The third book, one of 268 pages, was on *Man and His Poisons* (78). And the fourth book, a mammoth of 1039 pages on *Diagnostic Therapeutics* (79) appeared in 1910.

The Reflexes of Abrams

Along with his interests in the various aspects of physical diagnosis, he began to write about the reflexes of the various organs. His first report was on the x-ray in the study of the heart reflex (44). Three years later he labeled it the "cardiac reflex of Abrams" (80). He did the same with the lung reflex (45), and this too acquired his name (81). Perhaps if he had stopped there, both eponyms might have persisted and still be taught to students of physical diagnosis. When he endeavoured to demonstrate by percussion the liver reflex (82, 83), a ½ inch recession of the liver dullness evoked by stimulation of the overlying skin, his eccentricities, already known to his colleagues, seemed to become accentuated. He continued with the knee-jerk (84), the stomach (85), aortic (86), intestinal (87), vertebral concussional (88), and splenic reflexes (89), and added his name to some of these. After 1904 his ideas of nerve reflexes were syncretized with those of osteopathy, with resultant extravagant claims made for his system of treatment in such diseases as angina pectoris and aneurysm (90) by means of percussing the spine.

His Electrical and Mechanical Interests

While at Heidelberg, Abrams took an interest in electricity. Gramme's dynamo was but a few years old and the Edison incandescent lamp had been demonstrated only three years previously. In his article on "Some Uses For the Application of Electricity" (13) Abrams discussed electrobioscopy, electrization of the phrenic nerve as a remedy for asphyxia and syncope, farado-puncture, use of electrical sound to detect the presence and site of a metallic body in the tissues, use of electricity as a therapeutic agent in obstetrics and gynecology, the treatment of emesis and gastroectasia with electricity, and electrolysis, with a review of the current literature to that date. Even by present day standards, it is an excellent article.

A few years later his articles on the pneumatic cabinet (28) were considered conservative and unenthusiastic. His interests then turned to congelation (31) as an aid in diagnosis and treatment. And it was not

surprising that he next turned to the use of the x-ray in cardiac (35) and pulmonary diagnoses (91), having demonstrated its value in 1897. As has been mentioned, he presented these and other electrical and mechanical aspects in the cardiac text.

In 1907 there first appeared, under his name, the announcement of a vibratory instrument for percussion (92), but he did not go into this fully until 1910 when his book on *Spondylotherapy* was published (93). The term was a neologic creation of Abrams, who stated that spondylotherapy concerned itself only with the excitation of the functional centers of the spinal cord. His disciples called it the science of evoking the reflexes of the body both to diagnose and cure diseases. Surprisingly enough, this book on *Spondylotherapy* went through six editions in eight years. In between, he wrote one on *Progressive Spondylotherapy* (94) and contributed articles on the subject to medical journals (95). And between 1912 and 1914, Abrams gave "clinical courses" on spondylotherapy in various parts of the country at a $50.00 fee.

The Electronic Reactions of Abrams (96)

This interest in mechanics and electricity in medicine finally ended in his "Electronic Reactions." In 1916 he presented his *New Concepts in Diagnosis and Treatment; Physio-Clinical Medicine* (97). This he called "the practical application of the electronic theory in the interpretation and treatment of disease." At the same time he founded the *Journal of Electronic Medicine,* first issued in September of 1916, and he edited the first six volumes.

Vibration in diagnosis and sympathetic vibration as a corrective were the essentials of this new concept. The diagnostic technic consisted in placing a drop of the patient's blood in a box called a "dynamizer," containing a "jungle of wires," batteries and a rheostat. The "dynamizer" was provided with an electrode which was placed on the forehead of a healthy subject facing westward in a dim light. From areas of dullness elicited by percussion of the healthy subject's abdomen, Abrams attained the diagnosis of either disease or religion. If this sounded absurd, there was the therapeusis of sympathetic vibrations supplied from another box, the "oscilloclast." As adjuvants, vividly colored ointments, supposedly of a certain radioactivity, were smeared over the patient's abdomen. Abrams presented his electronic reactions in medical journals, and founded a quarterly, *Physio-Clinical Medicine,* devoted to the electronic reactions and to his visceral reflexes. His final medical article, on

electrobiography (98), appeared in the fall of 1921, just before he became a *cause célèbre.*

The Abramsism Controversy

Unitil 1922 "spondylotherapy" and the "ERA" (Electronic Reactions of Abrams) (99) received little attention from organized medicine. In that year, however, because of the many letters on these subjects and about Abrams himself, the Bureau of Investigation of the American Medical Association, through its *Journal,* opened fire on him and his methods of practice. It was admitted that he was a member of his local medical society and that he held, through that, fellowship in the Association; and that he had written voluminously. When the first article appeared Abrams was giving courses in San Francisco, beginning the first of each month for four weeks, at an honorarium of $200.00.

When asked about "spondylotherapy" he said:

> Despite the fury of tongue or the truculence of pen, the osteopath and chiropractor are inspiring the confidence of the community with their systems. Right or wrong in their theory, they are in the vulgar parlance, "delivering the goods." Spondylotherapy was a product of necessity—the translation of an ignored field of medicine from a chaotic to a scientific basis (100).

From the address of 2135 Sacramento Street, where he lived, he edited and published *Physico-Clinical Medicine.* This advertised, among other things:

Dr.	Abrams	electrodes for electronic diagnosis	$ 6.00
"	"	Biodynameter	36.00
"	"	Reflex Set	36.00
"	"	Electro-concusser	120.00

The "oscilloclast" was rented to all comers, M. D.'s and others, at $200.00 or $250.00, according to whether AC or DC was needed, plus a monthly payment of $5.00 for each machine. It was not sold, only leased, with the definite understanding that the machine was not to be opened by the lessee. After the first article appeared in the *Journal of the American Medical Association,* more letters poured in, some questioning everything about him and others commending and defending him as a genius. Among the latter was a long one from the author, Upton Sinclair (39), who, in his then latest book, had devoted a few pages of eulogy to Abrams.

> (Sinclair wrote): Dr. Abrams follows the policy of ignoring attacks on his work, taking the view that in the long run, the man who cures disease makes his way in

the world in spite of all opposition. However, it is easy to see that he has been deeply hurt by this attack on his reputation.

This letter also stated that Abrams had taught his methods to 200 or 300 physicians, and that a great number of these using his "oscilloclast are enjoying incomes of from $1000 to $2000 per week."

"The average charge," Sinclair added, "is about $200.00 for a *guaranteed cure of such diseases as syphilis, tuberculosis, cancer, and sarcoma.*"

Until that time Abrams charged $10.00 for the examination of blood specimens sent to him, but afterwards he boosted it to $25.00, with all checks made payable to a trust fund he established for the purpose of founding a research institute. In further articles in 1922, the American Medical Association, through its *Journal,* turned its heavy guns on Abrams, his methods, and his disciples, and fired broadsides repeatedly. He withdrew from his local medical society and thus, indirectly, from the American Medical Association, but the "lessees of his oscilloclasts" included 217 physicians and 130 osteopaths, some of whom had as many as eight machines (101). The *Journal* continued to show the misdiagnoses and fallacies of these (102). Based on testimony in a court case and investigation by Milliken, the famous physicist, Orbison (103) recommended that "Abrams and his tribe have their state licenses taken away from them."

After Abrams consistently refused to submit himself or his methods to the scrutiny of qualified investigators, the *Scientific American* (104) conducted a one year investigation of ERA. In a series of 12 monthly articles, this independent magazine concluded: "At best it is an illusion; at worse it is a colossal fraud." The followers of Abrams were branded as "crude blatant advertising quacks, near-quacks and faddists with a sprinkling of men who, while they liked to be considered respectable, were essentially unscientific and invariably venal." Fishbein (105) went much further when he said that Abrams was a willing scapegoat for thinking horses, spiritualistic mediums, and hysterical malingerers.

Not only did Abrams advertise in the press, but he also had an electric sign at Trafalgar Square (15). "Even at this period of large wealth," for the Abrams Foundation took in in the neighborhood of two million dollars, "he remained mercenary, and it was not uncommon in the free clinics of San Francisco to see patients with incurable diseases, the remnants of his colored ointment (Abrams' paint) on their abdomens, left moneyless and hopeless after their electronic treatments" (15).

Defenders of Abrams contended that he was a genius, not a quack, who discovered a method, not an instrument; that he inherited, at an early age, a vast fortune from his father and decided to devote his talents and his life to medical research; that his inherited wealth was such that questions of expense were of no account; and, finally, not one cent of the money made on ERA went to him, but to his foundation for research.

At the height of this controversy, which became an international issue (106), Abrams contracted pneumonia and died on January 3, 1924. He left no dependents, for he outlived two wives, Jeanne Roth and his second wife, Blanche Schwabacher whom he had married on September 28, 1915; and there were no children. With his death the ERA became an issue of the past in the United States. The subject either provoked a smile or a shrug. However, in 1928, four years after his death, his fantastic hokum was deluding the credulous in England, Canada, and France (107). Harris (15) summed up Albert Abrams as "a tangental colleague possessing the boastfulness of Paracelsus, the self-deception of the alchemists, the alertness, tenacity and ruthlessness of the robber barons. . . . In the autumn of his life, his colleagues, viewing this prostitution of profession, thought him a clever, money-mad neuropath. But the observing neurologists, thinking of fixity of ideas, expanded ego and his colored salves, placed him among the mentally deranged."

Place of the Cardiac Text

Ironically, the little book on *Diseases of the Heart,* which in itself might have set him apart with notable and noted cardiologists, became an anomaly because of his quackery. Abrams' book was the twentieth text on the heart alone published since the first by De Senac in 1749. It may be classed as the nineteenth of the 19th century or the first of the twentieth century (108). Much more amazing is the fact that it was only the second cardiac text written by an American, having been preceded in the United States by that of Austin Flint in 1859 (109). Many American editions of English, French, and German cardiac texts appeared in the nineteenth century. Those of Corvisart (1806), Bertin (1833), Andry (1846) and Paul (1884) were of French origin. Burns' (1809) is considered the first English and Hope's (1832) the first complete book on heart diseases, Stokes (1854), Walshe (1862), Fothergill (1879), Balfour (1882), Bramwell (1884), Sansom (1892), Broadbent (1897), and Gibson (1898) all wrote Egnlish cardiac texts. The works of

Bamberger (1857), Fraentzel (1892), and Rosenbach (1897) were of German origin.

One may perhaps conclude that, despite the unsavory later career and deplorable medical ending of its author, *Diseases of the Heart* by Albert Abrams, M. D. (Heidelberg) ranks a place among the early cardiac texts, especially American, if only as a cardiologic anomaly.

BIBLIOGRAPHY

1. Abrams, A.: *Diseases of the Heart, Their Diagnosis and Treatment*, Chicago, G. P. Engelhard Co., 1900.
2. De Senac, J. B.: Traité de la structure du cœur, de son action, et de ses maladies, Paris, Barbon, 1749.
3. Abrams (ref. 1), p. 7.
4. Flaxman, N.: Peacock and Congenital Heart Disease; Thomas Bevill Peacock (1812-1882), *Bull. Hist. Med.*, 7: 1061, 1939.
5. Abrams (ref. 1), p. 30.
6. *Ibid.*, p. 33.
7. *Ibid.*, p. 69.
8. *Ibid.*, p. 63.
9. Altrocchi, J. C.: *The Spectacular San Franciscans*, New York, E. P. Dutton & Co., 1949, p. 138.
10. Albert Abrams, *J. A. M. A.*, 78: 1072, 1922.
11. Abrams, A: Medical Education in Germany, *Pacific M. & S. J.*, 25: 505, 1882-3.
12. Abrams, A.: The Etiology of Infectious Diseases, *Pacific M. & S. J.*, 26: 153 and 199, 1883-4.
13. Abrams, A.: Some Uses for the Application of Electricity. *Pacific M. & S. J.*, 26: 387, 1883-4.
14. Abrams, A.: Poisoning by Carbon Monoxide, *Pacific M. & S. J.*, 26: 532, 1883-4.
15. Harris, H.: *California's Medical Story*, Springfield, Ill., C. C. Thomas, 1932, pp. 322-324.
16. Abrams, A.: Floating Kidney; a Case and a Cure, *Pacific M. & S. J.*, 27: 97, 1884-5.
17. Abrams, A.: Azospermia; Its Relation to Male Sterility, *Pacific M. & S. J.*, 30: 569, 1887.
18. Abrams, A.: A Preliminary Note on a Case of Tetany, *Occidental M. Times*, 4: 14, 1890.
19. Abrams, A.: A Fatal Case of Poisoning by Chlorate of Potash, *Occidental M. Times*, 6: 23, 1892.
20. Abrams, A.: Pulmonary Atelectasis as a Cause of Anemia, *Tr. M. Soc. Calif.*, 1892, p. 37; *Med. News*, 62: 293, 1893; *Medicine*, 1: 513, 1895.
21. Abrams, A.: Report of a Case of Lung Syphilis, with Autopsy, *Occidental M. Times*, 7: 363, 1893.

22. Abrams, A.: A Case of Gastroptosis and Merycismus, with Voluntary Dislocation of the Stomach and Kidney, *Med. News*, 65: 405, 1895.
23. Abrams, A.: Report of a Case of Gonorrheal Endocarditis, *New York M. J.*, 64: 293, 1896.
24. Abrams, A.: Note of a Case of Facial Hemiatrophy, *New York M. J.*, 64: 582, 1896.
25. Abrams, A. and Tait, D.: A Case of Brain Tumor Manifested as Jacksonian Epilepsy; Operation, *Occidental M. Times*, 10: 372, 1896.
26. Abrams, A.: Progressive Pernicious Anemia and Malignant Disease of the Stomach, *Med. Rec.*, 57: 718, 1900.
27. Abrams, A.: The Prophylaxis of Trichinosis, *Rep. Bd. Health of California*, 9: 149, 1884.
28. Abrams, A.: The Pneumatic Cabinet and Its Use in the Treatment of Pulmonary Diseases, *Sacramento M. Times*, 2: 407, 1888; also, Report of 163 Cases Treated with the Pneumatic Cabinet, *Pacific M. J.*, 34: 513, 1891.
29. Abrams, A.: Mistakes in Diagnosis, *Occidental M. Times*, 7: 57, 1893.
30. Abrams, A.: Observations on Physiological Pulmonary Atelectasis, *Tr. M. Soc. of Calif.*, 1894, p. 33; *Med. Rec.*, 44: 268, 1894.
31. (a) Abrams, A.: Investigations on Congelation in Diagnosis and Treatment, *Tr. M. Soc. of Calif.*, 1894, p. 37.
    (b) Abrams, A.: Circumscribed Tonic Muscular Contraction: Reference to Congelation as an Aid to Diagnosis, *Am. Med. & Surg. Bull.*, 8: 1487, 1895.
32. Abrams, A.: New Methods of Demonstrating Tubercle Bacilli in the Sputum, *Occidental M. Times*, 10: 74, 1896.
33. Abrams, A.: A Contribution to the Study of Heretofore Undescribed Neuroses of the Lungs, *Tr. M. Soc., Calif.*, 1896, p. 116; *New York M. J.*, 63: 767, 1896.
34. Tait, D. and Abrams, A.: Pneumotomy, *Med. News*, 72: 263, 1898.
35. Abrams, A.: The Value of the Röntgen Rays in Cardiac Diagnosis, *New York M. J.*, 65: 785, 1897.
36. Abrams, A.: *A Synopsis of Morbid Urine*, San Francisco, W. S. Duncombe, 1886.
37. Abrams, A.: *Manual of Clinical Diagnosis*, San Francisco, The Bancroft Co., 1891.
38. *A System of Physiologic Therapeutics*, edited by Dr. Solomon Solis-Cohen, Philadelphia, P. Blakiston's Son & Co., 1903.
39. Albert Abrams, A Defense by Upton Sinclair, *J. A. M. A.*, 78: 1334, 1922.
40. Abrams, A.: *Scattered Leaves from a Physician's Diary*, St. Louis, Fortnightly Press, 1900.
41. Abrams, A.: *Diary of a Physician*, New York, Modern Press Corp., 1923.
42. Abrams, A.: Diseases of the Lungs and Pleura, *Med. Fortnightly*, 18: 565, 639, 1900; 19: 18, 203, 1901; 21: 20, 49, 272, 307, 466, and 646, 1902.
43. Abrams, A.: Portraiture of Medical Practice, *Am. Therapist*, 8: 129, 1900.
44. Abrams, A.: The X-Rays in the Study of the Heart Reflex, *Phila. M. J.*,

5: 66, 1900; The Clinical Value of the Heart Reflex, *Med. Rec.*, 59: 10, 1901.

45. Abrams, A.: The Lung Reflex, *New York M. J.*, 71: 57, 1900.
46. Abrams, A.: The Pleural Friction-Sound: Maneuvers for its Elicitation, *Phila. M. J.*, 65: 410, 1900.
47. Abrams, A.: Inhibition of the Heart as an Aid in Diagnosis, *Pacific M. J.*, 43: 342, 1900; also *Phil. M. J.*, 6: 601, 1900.
48. Abrams, A.: A New Physical Sign in Dislocation of the Heart, *Med. Rec.*, 58: 372, 1900.
49. Abrams, A.: A Contribution to the Study of the Intercostal Phonation Phenomenon and the Litten Diaphragm Phenomenon, *Med. Rec.*, 64: 212, 1903.
50. Abrams, A.: The Tracheal Traction Test, *Med. News*, 84: 1207, 1904.
51. Abrams, A.: The Physical Signs of Incipient Pulmonary Tuberculosis, *Med. Rec.*, 73: 309, 1908.
52. Abrams, A.: Aneurysm of the Thoracic Aorta, *Med. Rec.*, 76: 6, 1909.
53. Abrams, A.: Stethophonometry, *New York M. J.*, 72: 265, 1901.
54. Abrams, A.: The Treatment of the Heart in Typhoid Fever and Other Infectious Diseases, *Med. News*, 78: 410, 1901.
55. Abrams, A.: Nutrition in Pulmonary Tuberculosis, *J. Tuberc.*, 4: 129, 1902.
56. Abrams, A.: Bronchial Phthisis, *New York M. J.*, 77: 15, 1902.
57. Abrams, A.: Cardioptosis, *Med. News*, 83: 337, 1903.
58. Abrams, A.: The Classification and Diagnosis of Pulmonary Tuberculosis, *Colorado M. J.*, 10: 147, 1904.
59. Abrams, A.: The Treatment of Pulmonary Tuberculosis, *Medicine*, 10: 731, 1904.
60. Abrams, A.: The Cardiosplanchnic Phenomenon, *Am. J. M. Sc.*, 127: 125, 1904.
61. Abrams, A.: The Vasomotor Factor in the Clinical Measurement of the Blood Pressure, *Am. J. M. Sc.*, 127: 910, 1904.
62. Abrams, A.: A Clinical Method of Determining the Vasomotor Factor in Blood Pressure, *Am. Med.*, 7: 850, 1904.
63. Abrams, A.: Sphymography of the Abdominal Aorta, *Am. Med.*, 8: 996, 1904.
64. Abrams, A.: New Clinical Phenomena, *Medicine*, 11: 598, 1905.
65. Abrams, A.: Podography, *Am. Med.*, 10: 561, 1905.
66. Abrams, A.: Amyl Nitrite in Hemoptysis, *Lancet*, 2: 1685, 1906; 1: 117, 1907.
67. Abrams, A.: Inhibition of the Asthmatic Paroxysm, *Med. Fortnightly*, 30: 611, 1906.
68. Abrams, A.: Autointoxication and Indicanuria, *Med. Rec.*, 73: 689, 1908.
69. Abrams, A.: Pharmaco-diagnosis of Cardiac Diseases, *Arch. Diagn.*, 3: 313, 1910.
70. Abrams, A.: Treatment of Exophthalmic Goitre, *Internat. Clin.*, 4: 35, 1912.
71. Abrams, A. and Jarvis, G. D.: A New Method of Duodenal Intubation, *Arch. Diagn.*, 5: 329, 1912.
72. Abrams, A.: Diagnosis of Diseases of the Heart, *Internat. Clin.*, 2: 63, 1913.
73. Abrams, A.: Treatment of Diseases of the Heart, *Internat. Clin.*, 3: 108, 1913.
74. Abrams, A.: Augmented Blood Pressure, *Internat. Clin.*, 4: 49, 1913.

75. Abrams, A.: Symptomatic Atelectasis, *Med. Rec.*, 93: 276, 1918.
76. Abrams, A.: *Nervous Breakdown*, San Francisco, The Hicks-Judd Co., 1901.
77. Abrams, A.: *The Blues* (*Splanchnic Neurasthenia*), New York, E. B. Treat & Co., 1904.
78. Abrams, A.: *Man and His Poisons*, New York, E. B. Treat & Co., 1906.
79. Abrams, A.: *Diagnostic Therapeutics*, New York, Rebman Co., 1910.
80. Abrams, A.: The Cardiac Reflex of Abrams, *Lancet*, 2: 1052, 1903; The Heart Reflex and the Mechanism of Angina Pectoris, *Med. Rec.*, 72: 969, 1907; Percussion du cœur et détermination du ton du myocarde, *Presse méd.*, 18: 938, 1910.
81. Abrams, A.: The Lung Reflex of Abrams, *Lancet*, 2: 1756, 1903; Les Réflexes cardiaque et pulmonaire, *Presse méd.*, 15: 209, 1907; Asthma and the Lung Reflexes of Abrams, *Med. Rec.*, 78: 813, 1910.
82. Abrams, A.: Percussion of the Lower Border of the Liver, *Med. News*, 80: 258, 1902.
83. Abrams, A.: The Liver Reflex, *Occidental M. Times*, 17: 332, 1903.
84. Abrams, A.: The Knee-jerk, *Am. Med.*, 6: 852, 1903.
85. Abrams, A.: The Stomach Reflex and Percussion of the Stomach, *Med. Rec.*, 66: 377, 1904; The Vagovisceral Reflexes with Special References to the Vago Stomach Reflex, *Am. Med.*, 10: 575, 1905; Clinical Physiology of the Stomach, *Am. J. Physiol. & Therap.*, 1: 273, 1910-11.
86. Abrams, A.: The Aortic Reflex, *Am. Med.*, 7: 542, 1904; The Aortic Reflexes, *Med. Rec.*, 68: 459, 1905.
87. Abrams, A.: The Intestinal and Stomach Reflexes, *Medicine*, 10: 44, 1904; Cardio-splanchnic Phenomenon of Abrams, *Brit. M. J.*, 1: 1348, 1911; The Tonus of the Vagus, *Internat. Clin.*, 3: 17, 1912.
88. Abrams, A.: The Vertebral Concussional Reflexes, *Am. Med.*, 9: 640, 1905.
89. Abrams, A.: Splenic Reflexes of Abrams, *Med. Rec.*, 92: 586, 1917; Splenic Reflexes of Abrams in Treatment of Syphilis, *Med. Rec.*, 95: 96, 1919.
90. Abrams, A.: Contribution au traitement des anévrismes aortiques, *Presse méd.*, 19: 785, 1911; The Treatment of Aortic Aneurysms, *Brit. M. J.*, 2: 70, 1911; The Treatment of Aneurisms, *Internat. Clin.*, 4: 23 and 51, 1913; Abrams' Method of Treatment in Aneurysms, *Med. Rec.*, 86: 549, 1914.
91. Abrams, A.: Roentgen Rays in Pulmonary Disease, *J. A. M. A.*, 38: 1142, 1902; Some Cardiorespiratory Phenomena Revealed by the Röntgen Rays, *Am. Med.*, 5: 11, 1903.
92. Abrams, A.: Le vibro-suppressor; un nouvel instrument pour la percussion topographique, *Presse méd.*, 15: 83, 1907.
93. Abrams, A.: *Spondylotherapy*, San Francisco, Philopolis Press, 1912, 3rd edition.
94. Abrams, A.: *Progressive Spondylotherapy*, San Francisco, Philopolis Press, 1913.
95. Abrams, A.: Principles and Practice of Spondylotherapy, *Internat. Clin.*, 2: 14, 1912; Some New Things in Spondylotherapy, *Month. Cycl. & M. Bull.*, 6: 393, 1913; Spondylotherapy, *Ref. Handb., Med. Sc.*, 7: 910, 1917.

96. Abrams, A.: Electronic Reactions of Abrams, *Internat. Clin.*, 1: 93, 1917.
97. Abrams, A.: *New Concepts in Diagnosis and Treatment; Physio-clinical Medicine*, San Francisco, Philopolis Press, 1916.
98. Abrams, A.: Electrobiography, *Med. Rec.*, 100: 761, 1921.
99. Abrams, A.: ERA, *Med. Rec.*, 97: 565, 1920.
100. "Spondylotherapy," *J. A. M. A.*, 78: 913, 1922.
101. Abrams' "Oscilloclast," Some Lessees of this Therapeutic Device, *J. A. M. A.*, 79: 1626, 1922.
102. Two Electronic Diagnoses, Reactions of Guinea-Pig and Sheep to Reaction of Abrams, *J. A. M. A.*, 79: 2247, 1922; Another Electronic Diagnosis and Treatment; "Everything Clears Up"—But the Patient Dies, *J. A. M. A.*, 81: 317, 1923; Two More Electronic Diagnoses, Findings Made by an Osteopath and a Physician, *J. A. M. A.*, 81: 493, 1923.
103. Orbison, T. J.: Certain Electrical Diagnostic and Therapeutic Methods from Standpoint of a Neuropsychiatrist, *J. A. M. A.*, 81: 2057, 1923.
104. Scientific American on Abrams "Electronic Reactions," *J. A. M. A.*, 83: 939, 1924.
105. Fishbein, M.: Did Dr. Abrams Make a Real Discovery? *Forum*, 74: 204, 1925.
106. Clark, O.: Abrams Method of Percussion and Spondylotherapy, *Brasil Med.*, 34: 461, 1920; Barr, J.: Abrams Method of Percussion, *Lancet*, 1: 1109, 1920; Horder, J.: Medicine and Old Ethicks, With Special Reference to Electronic Reactions, *Brit. M. J.*, 1: 485, 1924; Humphris, F. H.: Exposure of ERA, *Lancet*, 1: 176, 1924; ERA, *Brit. M. J.*, 1: 179, 1925; van Rijnberk, G.: Annals of Human Credulity; Abrams' Electronic Reaction, *Nederl. Tijdschr. v. Geneesk*, 1: 846 and 2: 570, 1925.
107. Abramism Abroad, *J. A. M. A.*, 90: 401, 1928.
108. *See* Additional Bibliography.
109. Flint, A.: *Diseases of the Heart*, Philadelphia, Blanchard & Lea, 1859.

ADDITIONAL BIBLIOGRAPHY

Abrams, A.: *Transactions of the Antiseptic Club*, New York, E. B. Treat, 1895.

Abrams, A.: Stigmata of Abrams in Hereditary Syphilis, *Med. Rec.*, 94: 101, 1918.

Abrams, A.: A New Heart Test, *Med. Rec.*, 94: 680, 1918.

Abrams, A.: A New Method of Percussion, *Med. Rec.*, 94: 855, 1918.

Abrams, A.: Medical Treatment of Appendicitis, *Med. Rec.*, 95: 484, 1919.

Abrams, A.: Topographic Percussion and Visceral Tonicity, *Lancet*, 1: 541, 1920.

Abrams, A.: Clinical Localization of Vermiform Appendix, *Med. Rec.*, 98: 229, 1920.

Abrams, A.: Physics of Percussion, *Med. Rec.*, 97: 958, 1920.

Abrams, A.: Electrical Nature of Man, *Med. Rec.*, 99: 862, 1921.

Barr, J.: *Abrams' Methods of Diagnosis and Treatment*, London, W. Heinemann, 1925.

Doctor's Who's Who, edited by Charles Wells Moulton, New York and Chicago, Saalfield Co., 1906.

Du Plessis, J.: *Iconography of Electronic Reactions*, Chicago College of Electronic Medicine, Blanche and Jeanne R. Abrams Foundation, 1922.

Electronic Research Association, *J. A. M. A.*, 87: 1145, 1926.

Fishbein, M.: *The Medical Follies*, New York, Boni & Liveright, 1925.

Fishbein, M.: *Fads and Quackery in Healing*, New York, Blue Ribbon Books, 1932.

Flaxman, N.: Historical Aspects of Mitral Stenosis, *Medical Life*, 45: 1, 1938.

Flaxman, N.: The Hope of Cardiology; James Hope (1801-1841), *Bull. Hist. Med.*, 6: 1, 1938.

Friedberg, C. K.: A List of Writings on the Cardiovascular System, *Bull. N. Y. Acad. Med.*, 7: 81, 1931.

Hale, A. R.: "*These Cults*," New York, National Health Foundation, 1926.

Harding, T. S.: *Fads, Frauds, & Physicians*, New York, Dial Press, 1930.

Hudgings, W. F.: *Dr. Abrams & The Electron Theory*, New York, New Century Co., 1923.

Jarcis, G. O. and Abrams, A.: An Experiment to Test the Effect of Oil of Orange on the Nasal Mucosa, *Month. Cyc. & M. Bull.*, 6: 7, 1913.

Kodama, R.: Abrams Method of Treating Aneurysm, *Med. Rec.*, 93: 635, 1918.

Scott, F. G. L.: "*The Abrams Treatment*" *In Practice, An Investigation*, London, G. Bles, No Date.

NOTES AND COMMENTS

THE FIRST AND SECOND HUSSON COMMISSIONS FOR THE STUDY OF ANIMAL MAGNETISM

JEROME M. SCHNECK

One of the outstanding features of the history of hypnosis is the series of commissions appointed to investigate animal magnetism. The best known commission is that of 1784 which had a devastating effect on Mesmerism. The commission with which Husson's name is identified rendered its report in 1831. Then there was the commission of 1837, again in France, which rendered an unfavorable report. The entire subject of these commissions is of historical importance because they influenced so strongly the general attitudes toward the subject under investigation. This applies not so much to the substance of the reports themselves, but rather to the influence of the appointing bodies regarding the conclusions reached in the reports. In general, the appointing groups were inclined to accept unfavorable decisions and to reject favorable findings. This is of interest in connection with what may be referred to as the history of scientific attitudes.

A review of several works on hypnosis which also deal with its historical backgrounds shows misunderstanding or inaccuracy as to the facts pertaining to the investigations of animal magnetism at the time Henri-Marie Husson (1772-1853) was interested in the subject. The point to be stressed here especially is that Husson was a member of not one, but two commissions of inquiry. I am therefore designating these groups as the first and second Husson commissions. The report of 1831 is that of the second commission. Both the first and the second Husson commissions were the result of the interest of Pierre Foissac in animal magnetism and his efforts to encourage a reevaluation of the subject.

The few data I have available regarding the first Husson commission were obtained from a copy in my possession of the *Report on the Magnetical Experiments Made by the Commission of the Royal Academy of Medicine, of Paris. Read in the Meetings of June 21 and 28, 1831, by Mr. Husson, The Reporter*, Translated from the French, and Preceded with an Introduction, by Charles Poyen St. Sauveur, Boston: D. K. Hitchcock, 1836 (1). This study is the one I am referring to as that

of the second Husson commission. According to Poyen, it was on October 11, 1825, that Foissac invited the Academy of Medicine to reexamine animal magnetism. In the 1831 report, Husson wrote that Foissac reminded the Academy of the dissenting report of a member of the 1784 commission appointed by the Royal Society of Medicine and pointing out that since then, new experiments and researches had been carried out. Foissac himself was submitting a somnambulistic subject for examination by the Academy. It was at this time that the first Husson commission was appointed, and according to the translation of the 1831 report, the first commission consisted of Adelon, Burdin the eldest, Marc, Pariset, and Husson. This commission was evidently a study group rather than a group for direct experimentation, but in the translation of the 1831 report it is specifically referred to as a commission. The report of this group was presented to the Section of Medicine at the meeting of December 13, 1825. It rendered the conclusion that magnetism should be examined anew. As was typical of any such favorable remarks, acceptance was not casual. On the contrary, animated discussion followed, again according to the 1831 report, and this discussion continued during the meetings of January 10 and 24, and February 14, 1826. On the latter date the commission replied to all the objections to the report, according to Husson, and it was then that the Section decided on the appointment of what my copy of the 1831 Husson report refers to as a special commission. It continues to tell about what it then calls this new commission which I have designated here as the second Husson commission. The second commission was appointed at the meeting of February 28, 1826.

Interestingly, Husson was not initially appointed to this commission. He himself says that Laennec had been appointed, but became ill and had to leave Paris. As a result, Husson was selected to replace him. Husson recorded the other commission members as Bourdois, Double, Fouquier, Gueneau de Mussy, Guersent, Leroux, Magendie, Marc, and Thillaye. Later on he refers to Itard as a commission member. Further details about the work of this group will not be dealt with now.

To come back to the general works on hypnosis: Foveau de Courmelles (2) makes no mention of the first commission. The same is true of the book by Moll (3) which is now considered a classic, except insofar as he refers to the commission appointed in 1826 as having been proposed by Foissac and recommended by Husson. Hollander (4), in a well known work, does not distinguish the two groups, nor does Bernheim (5) in his classic volume. This applies also to a professional writer who recently

published a history of hypnosis for popular consumption (6). He is, in addition, incorrect about the date of appointment of the second commission and the date of its report. Furthermore, he is mistaken in classifying the conclusions as unfavorable insofar as the basic attitude toward magnetism is concerned.

The existence in print of an English translation of the 1831 report is worth noting because it has been alleged that the original report in French was not printed at all. Bernheim says the Academy did not dare print the report and, more recently, Frankau (7) has claimed that the Academy refused to print it. Frankau incidentally refers to the Husson group reporting in 1831 as a first commission, and the subsequent group which reported unfavorably on magnetism as the second. It would seem that the availability of an English translation of the 1831 report is of interest from the view of the history of hypnosis in the United States. This particular translation is not available, for example, at the New York Academy of Medicine, whereas data regarding the original report are to be found there as part of a work by Dupotet, the well known magnetizer, who incidentally was of considerable practical assistance to Husson and his experimenters.

Zilboorg (8) refers to Charles Poyen as a French magnetizer who came to the United States to give public séances of magnetism, and he claims that P. P. Quimby obtained his first conceptions of faith healing at these sessions. Quimby's contact with Mary Baker Eddy and the development of Christian Science is, of course, well known. Poyen's introduction to the Husson report is a detailed and serious discussion of animal magnetism. At the close he apologizes for his imperfect English and states that he was acquainted with the language for a period of only twenty-two months. In addition, he credits his friend Hewins, an artist in Boston, with encouraging the idea of such a publication and with reading and correcting his manuscript. Hewins knew French as well as English and was said to have issued several articles dealing with animal magnetism, a subject which interested him much.

With the current increase in study relating to clinical and experimental hypnosis, I believe renewed interest in its historical aspects is warranted. There is room undoubtedly for replacement of the usual sketchy historical accounts by new factual data, reevaluation of factual material, and better integration of the history of hypnosis with the history of psychology and of medicine. Consistent with the latter is the historical chapter by Rosen which was contributed to my textbook on hypnosis (9).

The present report on these factual details of the first and second Husson commissions has been prepared as one of a series of studies dealing with historical and cultural aspects of hypnosis (10-15) supplementing my clinical and experimental investigations and writings (16).

REFERENCES

1. Poyen St. Sauveur, Charles: *Report on the Magnetical Experiments Made by the Commission of the Royal Academy of Medicine, of Paris.* Read in the Meetings of June 21 and 28, 1831, by Mr. Husson the Reporter. Translated from the French and Preceded by an Introduction, Boston, D. K. Hitchcock, 1836.
2. Foveau de Courmelles: *Hypnotism*, London, George Routledge and Sons, Ltd., 1891.
3. Moll, Albert: *Hypnotism*, London, Walter Scott, 1890.
4. Hollander, Bernard: *Hypnotism and Suggestion in Daily Life, Education, and Medical Practice*, London, Sir Isaac Pitman and Sons, Ltd., 1910.
5. Bernheim, H.: *Suggestive Therapeutics* (1886), New York, London Book Company, 1947.
6. Marks, Robert W.: *The Story of Hypnotism*, New York, Prentice-Hall, Inc., 1947.
7. Frankau, Gilbert: *Mesmerism by Doctor Mesmer* (1779). Being the First Translation of Mesmer's Historic *Mémoire sur la découverte du Magnetisme Animal* to Appear in English, with an Introductory Monograph, London, Macdonald, 1948.
8. Zilboorg, Gregory: *A History of Medical Psychology*, New York, W. W. Norton & Company, Inc., 1941.
9. Rosen, George: History of Medical Hypnosis (Chapter) in Schneck, Jerome M. (Ed.), *Hypnosis in Modern Medicine*, Springfield, Ill., Charles C Thomas, 1953.
10. Schneck, Jerome M.: James Esdaile, Hypnotic Dreams, and Hypnoanalysis, *J. Hist. Med. & Allied Sci.*, 6: 491-495, 1951.
11. ——: The School of the Hospital de la Charité in the History of Hypnosis, *J. Hist. Med. & Allied Sci.*, 7: 271-279, 1952.
12. ——: The Hypnotic Trance, Magico-Religious Medicine, and Primitive Initiation Rites, *Psychoanalytic Rev.*, in press.
13. ——: A Medical Hypnotherapeutic Addendum to the Case of M. Valdemar, *Bull. M. Library A.*, in press.
14. ——: Mesmerism and Henry James' The Bostonians, in *Studies in Scientific Hypnosis*, New York, Nervous and Mental Disease Monographs, to be published.
15. ——: Du Maurier's Trilby and Modern Hypnosis, in *Studies in Scientific Hypnosis*, New York, Nervous and Mental Disease Monographs, to be published.
16. ——: Hypnosis in Psychiatry (Chapter) in Schneck, Jerome M. (Ed.) *Hypnosis in Modern Medicine*, Springfield, Ill., Charles C Thomas, 1953.

MEDICO-HISTORICAL NEWS AND ACTIVITIES

ANNOUNCEMENTS

AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE

Twenty-seventh Annual Meeting: New Haven, Connecticut, 6, 7, 8 May 1954

The twenty-seventh annual meeting of the Association will be held in New Haven on 6, 7, and 8 May 1954. Dr. Samuel C. Harvey has been appointed chairman of the Program and Entertainment Committee, the other members being Dr. Herbert Thoms, Dr. Thomas R. Forbes, Dr. Paul D. MacLean, Mr. William B. Walker, Mr. John B. Blake, Mr. Frederick G. Kilgour, Miss Madeline E. Stanton, and Miss Elizabeth H. Thomson, with Dr. Fulton, President of the Association, serving ex officio. The Taft will be the headquarters hotel and the annual banquet will be held at the New Haven Lawn Club on Saturday, 8 May.

The first formal session will take place on Thursday evening, the 6th. Three sessions will be devoted to specific topics: (1) The Historical Impact of Curative Medicine on Society (papers by invitation); (2) Interrelations of Chemistry and Medicine; and (3) The Rise of Statistics in Medicine. Members wishing to submit papers for symposia (2) and (3) or on other subjects for the remaining two sessions are invited to send titles to the Chairman on or before January 1st with an abstract of approximately two hundred words.

Constituent Societies

Johns Hopkins Medical History Club

The last meeting of the academic year 1952-53 took place on April 27, 1953, in the Hurd Memorial Hall of the Johns Hopkins Hospital. The first part of the evening was devoted to "Bernhard Bang, Physician, Veterinarian, Scientist (1848-1932)" which was the subject of a paper by T. Franklin Williams and Victor A. McKusick. The discussion was opened by Dr. Alice C. Evans who played such an important role in the development of our knowledge of brucellosis. As the second part of the evening, Dr. Louis A. M. Krause of the University of Maryland read a paper on "Medicine in the Bible." The following were elected officers for the year 1953-54: Richard H. Shryock, President; A. Earl Walker, Vice President; Victor A. McKusick, Secretary; Owsei Temkin, Delegate to the American Association of the History of Medicine.

NATIONAL NEWS

American Academy of the History of Dentistry

Beginning with March 1953, a *Bulletin of the History of Dentistry* is being issued monthly in mimeographed form by the American Academy of the History of Dentistry "whose members are requested to submit items of news interesting to dental historians." Address G. B. Denton, American Dental Association, 222 E. Superior Street, Chicago 11, Illinois.

American Medical Association

The *Journal of the A. M. A.* (May 16, 1953, p. 242) announces two exhibits of interest to medical historians that will be displayed at the New York meeting of the A. M. A., June 1-5, 1953. The New York Historical Society will have an exhibition on "The Health Art in Old New York"; The New York Academy of Medicine will display material illustrating the practice of medicine in New York City before 1825, the Alfred M. Hellman Collection of early obstetrical works and items of historical interest from the other collections.

Kansas

Dr. Elmer Belt, Clinical Professor of Urology, University of California School of Medicine at Los Angeles, delivered the fourth course of lectures under the Clendening Lectureship on the History and Philosophy of Medicine at the University of Kansas School of Medicine. Dr. Belt spoke on May 4, 1952, on "Leonardo da Vinci's Technical Innovations and Discoveries in Anatomy" and on "Leonardo da Vinci's Studies of the Genito-urinary System."

Following the Clendening Lecture, the D. C. Guffey prize of $100 for the best paper by a senior student on a subject in the field of history of medicine was awarded to Mr. Robert L. Van Citters for his paper, "The Contribution of Herman Boerhaave and the University of Leyden to Medical Education."

Philadelphia

Ceremonies honoring the memory of Sir William Osler, M. D., as one of the pioneers of American medicine have been scheduled for the afternoon of June 5 in the Administration Building auditorium at Philadelphia General Hospital, it was announced by Dr. Robert J. Hunter, chairman of the Osler Memorial and Blockley Historical Committee.

Highlight of the ceremonies will be the presentation of a Dean Cornwell painting, "Osler at Old Blockley," to the hospital by Harry S. Howard, president of Wyeth Laboratories. The painting is one of a series commissioned by Wyeth, commemorating great men of American medicine. Alfred G. Scattergood, president of the hospital's Board of Trustees, will accept the painting on behalf of the hospital's Osler Memorial and Blockley Historical Committee, which has established an Osler Museum in the old post house where Osler performed much of his work while in Philadelphia.

Speakers on the program will include Dr. David W. Kramer, president of the

Medical Board at Philadelphia General; Dr. John E. Deitrick, professor of medicine at Jefferson Medical College, and Dr. Jonathan C. Meakins, emeritus professor of medicine at McGill University, Montreal, where Osler studied for his doctorate, and then taught before coming to Philadelphia. Dr. August H. Groeschel, executive director of Philadelphia General Hospital, will preside.

William Beaumont Memorial

The February 1953 issue of the *Michigan State Medical Society Journal* has appeared as a " Beaumont number " in connection with the plans for the Beaumont memorial.

NEWS FROM ABROAD

Brazil

The second Brazilian Congress of the History of Medicine will be held July 19-25 under the sponsorship of the Federacão Nacional de História da Medicina e Ciencias Afins. The Congress will be organized by the Instituto Pernambucano de História da Medicina and will have as its official theme " History of Medicine and Related Sciences in Brazil."

Congress of Hippocratic Medicine

The Second International Congress of Hippocratic Medicine (II^{me} Congrès International de Médecine Hippocratique) will take place in Evian, France, 3-6 September, 1953, under the presidency of Professor Laignel-Lavastine. Several historical papers are included in the program.

England

Announcement has been made that the Harvey tomb and chapel at Hampstead, Essex, are now almost restored (*J. A. M. A.*, May 16, 1953, vol. 152, p. 262).

Germany

The March 1953 issue of the " Nachrichtenblatt " of the German Society for the History of Medicine, Science, and Technology contains the transactions of its annual meeting at Schweinfurt (Main) September 20-24, 1952, including abstracts of the papers presented. The " Nachrichtenblatt " is issued by the editor of the society, Dr. Gernot Rath, Bonn, Wilhelmstr. 35-37 (Medizinhistorisches Institut).

Vesalius Lecture

In 1951, Dr. John F. Fulton occupied the " Chaire Francqui " at the University of Louvain, receiving a decoration by the King of Belgium at the end of his course. Dr. Fulton's final lecture, " André Vésale, Fondateur de l'Anatomie Moderne," has been published in the *Revue des Questions Scientifiques*, 1952, Sér. V, 13, pp. 161-170. It has an important bearing upon the early life of Vesalius, preceding his sojourn in Italy, especially the years of his study at the Collegium Trilingue at Louvain.

BOOK REVIEWS

J. Strebel (editor).* *Theophrastus von Hohenheim genannt Paracelsus. Sämtliche Werke in zeitgemässer Kürzung.* 8 volumes. St. Gallen: Verlag Zollikofer & Co., 1944-1949. Ill. 200 Swiss francs.

The bedrock of Paracelsus studies are the editions of Huser—still unsuperseded and indispensable. All these have become rare. Moreover, the quarto edition comprises ten volumes and the folio editions form two elephant volumes, each with a total of 1,818 pages, to which must be added 680 pages of surgical works. They give the full text in the archaic XVIth century German interlarded with Swiss and Swabian idioms and full of the repetitions typical of Paracelsus' allegorical, persuasive, and colloquial diction. Who is going to "read" all this? The edition inaugurated by Aschner (Jena, G. Fischer, 1926-1932), tried to make Paracelsus readable by translating the complete text of the Huser quarto into contemporary German. The result was four bulky volumes, each about 1,000 pages. Apart from that, however, the medical reader will here find the text easier to digest and more amenable to selection of topical passages. In this connection, the excellent edition by Franz Strunz (Jena, 1903-1904) should be mentioned but it covers only two of the more important works, i. e. the Paragranum and the Paramirum. American and English readers should be reminded of the elegant and scholarly edition of four important treatises by Sigerist and co-workers (C. L. Temkin, G. Rosen, G. Zilboorg; Baltimore, 1941).

Huser's text arranges the treatises according to importance of contents and genuineness. By contrast, Sudhoff's edition (Munich, 1922-33 in 14 vols.) offers them in chronological order. This facilitates the study of a development of ideas parallel with the phrases in Paracelsus' agitated life and chequered career. On the other hand, the scholar interested in actual contents rather than literary and bibliographical niceties is hard put to the task of tracing and collecting the pieces which belong together by content. While the Huser editions are equipped with most helpful, though not perfect indexes, there is no index to Sudhoff or Aschner. No satisfactory solution has, therefore, been found for the production of a readable edition of the works of Paracelsus. The present rendering by the Swiss ophthalmologist, Strebel, purports to offer a solution. Instead of a chronological or bibliographical order, his arrangement is systematical. The first volume contains "programmatic" works such as the "Seven Defensiones," the "Labyrinthus medicorum" and various letters. Next are given the philosophical and mystical works, such as the "Philosophia Magna" and "Sagax" (vols. II-IV). The "propedeutic" Paragranum and Paramirum follow (vol. V) and the clinical, surgical, hygienic, epidemiological, pharmacological, and macrobiotic treatises fill the last three volumes.

The result is eight elegant volumes, a delight to the bibliophile and possessing distinct amenities. It must be said at once, however, that they form no "edition"

* [Dr. Joseph Strebel died on June 7, 1952.—Ed.]

of the works of Paracelsus. For these are grossly abbreviated, and of some of them only a few passages are left. We find, for example, a number of sentences which give the bare *result* of deliberations relating to the treatment and pathology of certain diseases. These few sentences, however, fail to show how these results were arrived at, although Paracelsus left no doubt about this in the passages omitted. Moreover, the text is given in a translation into modern German which in places is even more free than the translation by Aschner. The author insists that his rendering is not an "anthology" since it gives at least something from each of the extant treatises of Paracelsus. It is true that some of them are given in full or almost in full such as the "Defensiones," the "Labyrinthus," the "Philosophia Sagax," the "Paragranum," and others—but in rendering the bulk of the works the process of selection is predominant and this the editor cannot help making a personal one.

A few examples may be given: Strebel translates (vol. I, p. 199): "God has given knowledge. Experience is acquaintance with that which is tested by knowledge." The Huser text, however, has (Fol. ed. I, p. 273): "Scientia is contained in that in which God has given it: Experience is the acquaintance with that in which Scientia is put to the test." The Paracelsean notion of "Scientia" ("knowledge"), for example, the "knowledge" by which the pear tree grows pears, is well expressed in the Huser text but lost in the insipid version of the present rendering (which is here as in other passages identical with that of Aschner).—Strebel (ibid.): "Knowledge is that which perfectly accords with the essence ("Wesen") of the correct order of Nature." Huser (ibid.): "Scientia is that which perfectly accords with a knowledge ("Wissen") in the correct order of Nature."—Strebel: "Experience is that which is found, learnt and given with ("mit") knowledge." Huser: "Experience is what is found, learnt and given from ("aus") Scientia," the difference being that "with knowledge" would refer to the derivative knowledge of man, whereas "from Scientia" refers to the original (divine) knowledge immanent in objects, as the only source of real knowledge.

The same ambiguity of "Scientia" is recognisable in other places. It is sometimes rendered by Strebel (and Aschner) as "Science" ("Wissenschaft") but again—in the reviewer's opinion—meant by Paracelsus as the function of a natural object which reaches its perfection and destiny by a kind of knowledge. For example, in the Opus Paramirum (Book II, chap. 2) Strebel renders (vol. V, p. 236): "It follows that to science (für die Wissenschaft) heaven and earth, air and water, are the same as a man and vice versa. Thus the microcosmic Saturn (i. e. that in man) accepts the heavenly saturn . . ." Huser's text (Fol. ed. vol. I, p. 42): "It follows that heaven and earth, air and water are a man, in the Scientia: And man is a world, with heaven and earth, with air and water, also in the Scientia. Thus Saturnus microcosmi has an affinity to Saturnus coeli . . .". "Scientia" is an internal awareness which directs life to perfection in form and function. In this man constitutes a cosmos in the same way as does the outside world. He has his own "firmament" and his organs are correlated to each other not unlike the stars in an "astronomical" manner.

Strebel (vol. II, p. 89): "And so it is with man. Heaven cooks him. What

is cooking? That rust and dross be eaten away. This is what constitutes rebirth. If you are again born from above, then you will be blessed . . .". This abbreviated rendering gives the impression that " rebirth " from above is identical with the natural process of cooking, which causes plants, fruits, and other natural phenomena to " ripen." In reality the passage (Huser, vol. II, p. 217) makes it quite clear that no natural, but only a supernatural process can make man blessed. " Heaven cooks Arcana and Magnalia " for man by means of natural processes but " nobody should remain in his natural state, but should burn and chase himself through a fire so that he be cooked from above through the Holy Spirit who then constitutes the other birth."

Strebel worships Paracelsus as much as he admires modern science. Hence he finds in many passages of his hero anticipations of results of modern physics and genetics, for example, the wireless when Paracelsus talks about the magic power of hearing far distant voices transmitted through the air (Strebel, vol. III, p. 179), or " nuclear atomic energy which he (Paracelsus) visualised and predicted." When Paracelsus says: " the arts which are from God alone lie dormant in our forces and are given to us according to the hour of conception, when the germ of body and senses, of reason and arts is begotten," Strebel finds in this a statement which is correct from the scientific-genetic point of view (" vererbungstechnisch richtig "), because the " mixovariation " of " Gengarnituren " is due to the " atom like energy of cell-nuclear divisions at the time of conception, whereby the physical and ethereal bodies are determined " (vol. III, p. 209). The " Ilech " Strebel compares to the " Atomklammer," which prevents, for example, uranium from becoming lead. Occasionally, admiration for modern genetics seems to be responsible for the introduction of a meaning which is not actually in the original. Strebel (vol. V, p. 408): " Who could show us, at which site in the semen the four qualities of sadness, cheerfulness etc. lie (the answer was only given by genetics: in the gene-chart of the chromosomal loops)." Huser (vol. I, p. 130): " These four natures, sadness, cheerfulness, wrath, and moderation are materially in the body. But who is going to show us where they lie? . . . but there is something like it in the body, wherein such four things lie, harboured in matter. They also contribute their semen at birth. . . ." Paracelsus, therefore, speaks of a location of emotions in the bodily substance but not in the semen, although he later mentions their seminal transmission.

No such criticism, however, can detract from the distinct *merits* of Strebel's work. The author himself is a Paracelsus scholar and collector of long standing, to whose labour of love we owe impressive new data in the biography, bibliography, and iconography of Paracelsus. His iconographical studies are of particular interest. We refer to Strebel's essay " Paracelsus and the Rosicrucians " (*Nova Acta Paracelsica* 1946, III, 110-132; see also *Gesnerus* 1952, VIII, 236-45). In this he chiefly discusses the portraits appearing in the Byrckmann editions of the Meteorica (1566) and the Astronomica (1567). From the inscription in the former he derives support of the usual dating of Paracelsus' birth, i. e. 1493 (as against K. Bittel's evidence in favour of 1494). From the allegorical vignettes in the latter, he demonstrates the interest of 16th century Rosicrucians in the work of Paracelsus and its salvage from oblivion and destruction and thereby the existence

at least of Rosicrucian symbolism prior to Andreae and the well known literature of the early XVIIth century.

As the result of much detective work, Strebel shows that the print of 1567 should be attributed to Franz Hoogenbergh, not to Hirschvogel as is usually taken for granted, e. g. by Sudhoff. In two small insets this picture reproduces symbolical figures from the " Prognostication for twenty-four years " of 1536. One of these shows, apart from the symbol of " rebirth," books with partly torn pages. While in the original only some scribbling is visible, the reproduction of 1567 contains unmistakeable Rosicrucian seals inscribed on that page—namely an RX and the word ROSA. In the other vignette the " ladder of Jacob " can be seen as a background and a man whose left eye is missing—the " cagastric " or earthly and temporal eye, which must be suppressed as long as the right—" iliastric "—eye looks into eternity and the higher worlds of the creator. This, however, depicts a typically " pansophic " and " rosicrucian " idea as early as 1567. Incidentally, the reviewer may be allowed to draw attention to a possibly similar, even earlier picture. The title woodcut of the Cologne 1503 edition of Suso's Horologium Sapientiae shows two angels looking down on a " Pietà "-scene. In one of these angels only the right eye is fully drawn, whereas the left one is merely outlined. This seems to be an intentional feature of the picture rather than a typographical error (the cut is contained in the copy in the possession of the reviewer. It does not appear in the British Museum copy T 480(1)).—Strebel's work opens here some very interesting new perspectives—although the inclusion of Nicolaus Cusanus as " Father of the Rosicrucians " appears to need more substantiation than is given. Other such essays by Strebel include studies into the character of Paracelsus as transmitted by his parents (*Schweiz. Med. Wochschr.* 1943, LXXIII, 1582 and *Praxis* Bern, 1951, XL, 1075). In these he derives the irascible temperament from the father's side—deductions based on the important new genealogical studies of Bittel (e. g. in *Münch. med. Wochschr.*, 1942, No. 16). Strebel has also devoted special studies to the Tartarus problem (*Nova Acta Parac.* 1948, V, 112), to Paracelsus' merit in the pre-history of anaesthesia (preparation of ether from sulphur—vitriol and alcohol and its narcotic action on chickens—*Schweiz. Med. Wochschr.* 1948, LXXVIII, 164), in chemistry in general (*Praxis* Bern 1949, No. 37), in the pathology of goitre (*Praxis* Bern 1949, No. 10), in balneology and occupational pathology and hygiene (*ibid.* No. 21 and *Nova Acta Parac.* 1948, V. 86-135), in genetic pathology (hereditary transmission of epilepsy) and in the semantics of notions such as Archeus (*Schweiz. Med. Wochschr.* 1941, LXXI, Nos. 38 and 39). These detailed studies have enabled him to integrate the systematic approach to the writings of Paracelsus with their historical setting. Much new literary criticism offered by Strebel marks an advance on other editions, even that of Sudhoff. It is a sad reflection on human frailty to see several not unimportant errors exposed in the work of this scholar, who was possessed of a totalitarian belief in his own infallibility. Such errors are not only philological, but also concern the whole attitude towards the variety of aspects of Paracelsus, including his " elusiveness " (to use Temkin's apposite term). Strebel says that Sudhoff concentrated on literary, rather than semantic, criticism and that he tried to explain away the mystical and magic side of Paracelsus as not authentic (vol.

II, pp. 17, 369 and in particular p. 423). By contrast, Strebel demonstrates against Sudhoff that the "Philosophia Occulta" as well as the "Liber de Fundamento" and the "Treatise on Images" are genuine. Sudhoff seems to have remained unaware of a passage in his own edition of one of the admittedly genuine treatises (vol. XII, p. 357), where Paracelsus says (sub. IX, 412): "As we have also described in libro de occulta philosophia" (Strebel, vol. II, p. 424).

Strebel has further shown that the original text of the Philosophia Sagax edited by Toxites (1571) is better than the Huser text on which Sudhoff relied and that the latter adopted wrong readings (such as "Ebriecatum" instead of "Ebrietatum") and "banal interpolations" from Huser (Strebel, vol. III, pp. 120, 177, 189, 193). Strebel rejects Sudhoff's assumption that Paracelsus had a Latin translation made of "De Gradibus" for his lectures at Basle. These were delivered in German and there are two Latin versions—a bad one by Oporinus and a good one. The latter Strebel suspects to have been supplied by Basilius Amerbach for publication—in Latin because Froben would publish only Latin books. This version seems to have reached first the Silesian circle of Paracelsists and been missed by Toxites and Bodenstein. Strebel concludes: "These data can be obtained only from Huser, not from Sudhoff" (*Praxis* Bern 1949, No. 30).

Finally, Strebel finds fault with Sudhoff's dating; in his opinion Sudhoff antedated the treatises published in his first volume by four to five years and published in his last volume material which he was unable to date, although we can do so today. Thus the chronological system "failed twice in the hands of a 'Masterbrain' ('Grossmeister') of Paracelsus research, for which he had uncurtailed time and means at his disposal" (vol. VIII, p. 24).

Strebel's holistic and unprejudiced attitude towards all the aspects of Paracelsus' literary remains accounts for a sound view of the position of "Astronomy" and "Astrology" therein. One could certainly collect astrological passages from them but what Paracelsus develops systematically is neither astronomy nor astrology but something which Strebel aptly calls "Astrosophy." In it, concordances between macrocosm and man are paramount as against the common "astrological" belief in astral inclination, whereby man is subjected to the dictate of a particular star or constellation. Paracelsus' ideas thus leave room for the human power to "influence" stars.

There are a few places in which Strebel left and probably had to leave obscurities of meaning and diction, seals which seem to defy resolution and ambiguities in which Paracelsus appears to contradict himself. But, looking at Strebel's rendering as a whole, one must admit in fairness that he has succeeded in many places—selecting the important passages, assembling what belongs together by content in readable form, bringing out the significance of the treatise and its main parts and the meaning intended by Paracelsus. A notable example of this are the works on the "Tartarus" (Strebel's vol. VI, p. 101 and passim), the Paramirum as a whole and the clinical volumes in general.

Strebel's plea for an abridged rendering in contemporary language calls for support against obscurantism and narrow-mindedness, which regard such efforts as "sacrilege" and pick out philological errors which cannot fail to occur even in the most "critical" edition of the original text. In fact, Strebel's modern

rendering not infrequently hits the mark and improves on his predecessors (e. g. vol. IV, p. 107; vol. VI, pp. 42, 357, 359), although these occasionally come in for criticism which is not clear (e. g. vol. III, p. 181 against Aschner's version vol. IV, p. 485).

A feature of special interest in the book is its generous supply of portraits and facsimiles. We mention in particular the following: a facsimile of the 19th chapter of the "Bertheonei" (Minor Surgery) which deals with Paracelsus' quite modern ideas in the pathology of goitre (as a "mineral growth") and cretinism, from an unpublished manuscript by Toxites preserved at the Bürgerbibliothek at Luzern (vol. VII, p. 227); pages from syphilis incunabula (Tosella and Leonicenus; ibid. pp. 273-4); the Nürnberg Peypus print of the book on the Gujac wood (1529, vol. VI, p. 363); the autograph of the Pfäffers treatise (from the Stiftsarchiv at St. Gallen in vol. VI, p. 208); a prescription (Vindob. MS. 11144; vol. VI, p. 82. See to this and other documents: Strunz, F., *Theophrastus Paracelsus*. Jena, Diederichs 1903, pp. 20 and 126; id., Die Wiener Paracelsus—Handschriften *Wien. klin. Wochschr.*, 1907, XX, No. 36); title page, various pages, preface and fourth book of the Philosophia Sagax from the editio princeps by Toxites (1571; vol. III, pp. 66, 80, 121, 152, 177, 189, 278, 375 and vol. IV, pp. 8 and 149) and others.

The last volume is equipped with very useful chronological tables and an index of Paracelsean terms. The latter is too short, however, and in no way replaces an index to the eight volumes, which should be provided forthwith.

Strebel's venture has thus created a new and original kind of rendering. Though not presenting an "edition" in the strict sense of the word, it is superior to any form of anthology. In fact it is a helpful digest and a delightful companion to any of the extant full editions of Paracelsus.

WALTER PAGEL.

SAMUEL W. LAMBERT, WILLY WIEGAND, and WILLIAM M. IVINS, JR. *Three Vesalian Essays to Accompany the* Icones Anatomicae *of 1934*. New York: The Macmillan Company, 1952. xii + 128 pp. Ill. $6.00.

All interested in Vesalius and his work must—and I am sure do—bless the memories of Samuel W. Lambert and Leonard L. Mackall. It was on their initiative and through the willing response on the spot of Dr. Willy Wiegand that the original woodblocks used by the printer of the *Fabrica* were discovered in the Library of the University of Munich. These formed the basis of the *Icones Anatomicae* (1934), a volume the beauty of which honours all concerned in it. Our debt to them and to the New York Academy of Medicine is the deeper in that the blocks were completely destroyed in World War II. As Dr. Malloch truly says, in his foreword to the handsome volume before us, the figures in the *Icones* are, in some respects, actually more beautiful than those in even the finest copies of the *Fabrica* itself. One explanation is that the art of paper-making has advanced since 1543, for the chief defect of the *Fabrica* is in its paper. Nevertheless the sub-title of this volume now issued "to accompany the *Icones Anatomicae*" is

scarcely borne out by its contents. All Vesalian writings, from 1934 onward, truly "accompany the *Icones*," for all must depend on it, directly or indirectly, but this present volume, valuable and interesting though it is, hardly "accompanies" it in any other sense.

The first essay is by Dr. Lambert. It is on *The Initial Letters of the Fabrica* and will be welcomed as a memorial of its author on exactly the type of subject best suited to his learnedly allusive style. The reviewer would venture to add the suggestion that the initial T may represent an act of suspending the body of a dog, to dissect it in that position. This practice preceded and long survived Vesalian times. Similarly the V, representing Apollo flaying Marsyas strung on a tree, may be reminiscent of dissecting a suspended body.

The second essay, *Marginal Notes by the printer of the Icones*, is a document of permanent importance for the history of anatomy and of art history. It records the finding of no less than 230 of these splendid blocks and a description of them by the only man in a position to render this service to history. He adds many valuable suggestions on the history of woodblocks in general and these in particular. He ends with a discussion of the scene in which the famous musclemen are set. This much-discussed identification is based mainly on the representation in these figures of outcrops of trachitic rocks, of Roman baths, and of arched galleries to farmhouses. All three are of frequent occurrence in North and Central Italy, and perhaps the certainty of the identification of the actual scene has been rather too readily taken for granted.

Approximately two-thirds of this volume are occupied by an article *What about the Fabrica of Vesalius?* by Mr. Ivins. This distinguished scholar has been attacking the status and achievement of Vesalius for nearly twenty years, so that the reader will guess the nature of his thesis, but he will not guess that one so experienced would forget his literary manners to the degree shown here. This *lapsus calami* should afford Mr. Ivins ample publicity.

The reader will not expect the reviewer to use this journal as a medium of controversy. It is therefore best to deal with Mr. Ivins's positive contribution rather than with any faults, errors, or lapses discernable in what he has written. Mr. Ivins sums up his main conclusion thus:

> "Had the *Fabrica* had the same text, but been illustrated with biologically adequate woodcuts of no artistic interest, and had it been small in format and badly printed, it would enjoy little of its great reputation and its author would very doubtfully have become a great hero."

Mr. Ivins is perfectly right that had the *Fabrica* not been a show-piece, it would not have been a show-piece. He deserves full credit for this discovery. Its importance has sustained him through several contributions to literature and through some 80 pages in this volume. But the reviewer thinks that it is fairly clear to any historian of medicine or science what would have happened had the hypothetical conditions of Mr. Ivins been fulfilled. The *Fabrica* would then have been a very substantial volume or series of volumes containing numerous obvious contributions to anatomical knowledge. Therefore during the sixteenth, seventeenth, and eighteenth centuries, while Latin was still the *lingua franca* of learning, the *Fabrica* would have been widely, though more painfully, studied. This would have been especially the task of the great historians of anatomy and the great patrons

of learning. Such men as Antonio Vallisnieri (1661-1730), Herman Boerhaave (1668-1738), Albrecht von Haller (1708-1777), or Antoine Portal (1742-1832)—to each of whom Latin was even as his mother tongue—could not fail to have known it well. They would have expounded its merits—as they did those of many far less signal contributors to anatomical knowledge. As Latin ceased to be more generally read, the translation of the work would have become a matter of evident urgency. It might then have been executed at the instance of some such literary Maecenas as Richard Mead (1673-1754) or Georges Cuvier (1769-1832) who prompted other efforts of the kind. Further, the *Fabrica* is the vehicle by which many ancient anatomical terms that are still in use have come down to us. It would have been, as it is, a perennial source for those interested in the history and range of anatomical nomenclature. This would have happened with or without figures and would have kept the name of Vesalius well before the historically-minded.

But, in fact, the greatest of all the many discoveries of Vesalius was precisely to have perceived, as none before him had done, the immense importance of art for the *analytical* study of nature. The German fathers of botany, who, Mr. Ivins thinks, foreshadowed Vesalius, betray no inkling of this conception. The first anatomical work that seeks to illustrate all that its text contains happens to be the *Tabulae Sex* of Vesalius himself. That work has many faults and covers only a small part of the anatomical field, but had it alone survived as a record of Vesalius, the same claim could still be made for him, and Mr. Ivins' charges would have remained as untenable as they are now also fantastic.

CHARLES SINGER

J. H. F. BROTHERSTON. *Observations on the Early Public Health Movement in Scotland*. London School of Hygiene and Tropical Medicine, Memoir 8. London: H. K. Lewis & Co., 1952. xi + 119 pp. Ill. 21 shillings.

Dr. J. M. Mackintosh, Director of the London School of Hygiene and Tropical Medicine has written the Preface to this valuable study. In it he points out that "a bright flame of interest has sprung up recently in the history of public health in Great Britain," and Dr. Brotherston's " principal concern is with the history of public health and he makes clear for the first time the sharp differences in evolution between England and Scotland." He shows, for example, that the public health movement emerged from the urgent needs of the poor in both countries but that the English solution was based on the control of epidemic disease by sanitary reform, while the Scottish attack was directed towards the improvement in standards of living.

The argument is presented in three main sections. The first one deals with the causes of the increase in population during the 18th century. The second discusses destitution and disease during the first half of the 19th century and the reform of the Poor Law. The third section is devoted to the sanitary reform movement in the 19th century.

Dr. Brotherston's detailed examination in the first section shows that during the 18th century there was not only a steady increase in the population but that there was a rising rate of increase of the population. He ascribes this to the big

change which took place in the agricultural system that developed in many areas of Scotland during the second half of the century. Prior to this, agriculture was organized on a traditional and outmoded system. Primitive methods of cultivation existed. This situation led to repeated famines, the worst one from 1693 to 1700 known as the "Seven Ill Years" of which he paints a harrowing picture of the havoc wrought among the people.

With the improved agriculture, the people were raised above the bare subsistence level. The greatest advance was in the increased quantity of food available as well as some addition to the variety afforded. Oatmeal was the mainstay of the daily diet. In 1738 the potato was added as was tea. Meat became less rare although it remained a luxury.

The improvement in the dietary brought with it a corresponding improvement in the conditions of the people. Housing began to improve.

Dr. Brotherston discusses the impact of a book first published in 1769 by William Buchan, M. D., entitled *Domestic Medicine*. It went through nineteen editions during the author's life time and sold over one hundred thousand copies. "The quality and popularity of the lessons taught by this 18th century manual of health education and household treatment was such that its effect on contemporary standards of domestic medical care must have been considerable."

Progress in the amount of medical care was also manifest as well as the growing influence of hospitals and the dispensary movement. Dr. Brotherston discusses the more important diseases—typhus, dysentery, putrid sore-throat, scrofula, consumption, malaria and small-pox,—all of these in their endemic and epidemic impact upon the population.

In section two, Dr. Brotherston discusses destitution and disease during the first half of the 19th century. The improvements of the 18th century were mainly in the rural population. While it was true that the nutrition level of the people generally was raised, the special problems of the urban areas remained untouched. The rapid increase of the urban populations led to an increase of over-crowding and all its attendant evils. The common lodging houses were indescribable in their filth. Even with increase in productive power, the amount of destitution increased. This led to a multiplication of pawnshops; increased and widespread drunkenness, and an increase in contagious fevers.

All of this led to a demand for Poor Law reform and this was brought about in 1845. The chief proponent for reform was W. P. Alison of the Chair of Medicine, Edinburgh University. The main opponent was Thomas Chalmers, Professor of Divinity, Edinburgh University. While the actual results of the new law were not commensurate with the magnitude of the problem of destitution it did serve to draw the attention of public opinion to the necessity to provide poor relief.

In the third section, devoted to the sanitary reform movement in the 19th century, Dr. Brotherston outlines the sanitary conditions in Scotland in early times; the sanitary conditions in the 19th century, and the beginnings of sanitary reform.

The beginnings of sanitary reform were stimulated by a major typhus epidemic in 1847 and two cholera epidemics in 1848-49 and 1853-54. It was in Glasgow that the reform movement started. In 1857 a "Committee of Nuisances" was appointed "and for the first time public health was differentiated as a special

function of local government." This step was taken under powers given by the Nuisances Removal (Scotland) Act of 1856. The first Medical Officer of Health was appointed in 1863 in the person of W. T. Gairdner. In 1867 the passage of Scotland's first Public Health Act marked the change in government policy from intermittent interference to acceptance of responsibility for constant supervision of public health matters.

It is interesting to follow the developments in Scotland in comparison with those in England. Scotland was from ten to twenty-five years behind England in grappling with the public health problem. The forming of public opinion was sluggish as compared with the aggressive actions of those interested in the English public health movement.

The volume is well printed with a good index, together with illustrations, maps, and charts. It can be recommended without reservation to every student of public health within and without the conventional academic circles.

ROBERT G. PATERSON

ASHBEL SMITH. *Yellow Fever in Galveston, Republic of Texas, 1839. An Account of the Great Epidemic.* Together with a Biographical Sketch by Chauncey D. Leake, and Stories of the Men who Conquered Yellow Fever. Austin: University of Texas Press, 1951, xvii + 135 pp. Ill. $2.50.

Ashbel Smith, Surgeon General of the Republic of Texas, was born in Connecticut in 1805 and received the M. D. degree at Yale in 1828. Following a well-known trend of the era he went to Paris for post-graduate study. Here he witnessed the great cholera outbreak of 1832 and published his observations. He joined the Société de Géographie, and later contributed to its Bulletin an article on the geography of Texas. After a brief and restless period of medical practice in North Carolina he volunteered for service in Texas. Arriving there in 1836, he took care of the wounded in the battle of San Jacinto. Within a year he was appointed the first Surgeon General of the Republic of Texas. Subsequently he was Texan Secretary of State and Minister to England and France. After the admission of Texas to the Union, he served in the State Legislature. His later public activities had to do with the Galveston Medical College and with the Medical Branch of the University of Texas.

Ashbel Smith's *Yellow Fever in Galveston* is believed to be the second separate medical publication in Texas. In the present edition it is a work of some 66 pages. The essay starts with a brief presentation of topographic and climatic data, special consideration being given to temperature and wind. The winds from the east and northeast were held to produce an inelastic state of the atmosphere and a predisposition to agues. The brisk north winds lowered the temperature but were deemed less prejudicial to health. The emphasis on winds is old-fashioned but is fully justified in a discussion of the epidemiology of yellow fever, since it was the cold north wind that put a stop to the outbreak of the disease. It was observed, moreover, that the north winds prevented the occurrence of new cases but were

prejudicial to persons already attacked. Analogous meteorological observations were made by Rush and others.

After these preliminaries the essayist proceeds to consider semeiology, gross pathology, and treatment. It was found that the prodromal period of the disease was followed by a stage of "vascular excitement" characterized by pain in the forehead and eyes, myalgia, restlessness, and bounding pulse. This "excitement" was attacked by a depleting technique, viz. phlebotomy. In addition, calomel was given in the belief that it restored healthy secretion and the balance of the circulation. These beneficient effects were held to have been observed in various types of fever previously treated by Smith in Texas. In yellow fever, however, Smith soon observed that the combination of phlebotomy and calomel seemed to aggravate gastric irritability. He thereupon temporarily abandoned phlebotomy and then calomel. He now admitted that he was in the middle of an epidemic and had no reliable method of treatment. After observing the gross lesions in the stomach in a few cases he "sought a cathartic, which should promptly unload the alimentary canal, without irritating it." He selected senna and manna; to this he added rhubarb because he had observed an entire absence of bile in the alimentary tract. Later he "gradually returned to a very confident employment of the lancet."

Smith's use of phlebotomy is worthy of careful consideration. If the patient was in the acute stage of "vascular excitement" he was bled in a sitting posture till slight faintness or a mitigation of the pains was produced. This usually required the abstraction of 12 to 18 ounces of blood. Thereafter, the patient was most assiduously guarded against exposure, since this might repel blood from the surface to the internal organs. Such precautions were especially important because of the engorgement of the gastric mucosa and the notorious black vomit. Smith concluded that "the bleeding has never failed in my hands to produce considerable mitigation of the pains, heat of the surface, and vascular excitement. . . . I attach great importance to the lancet in this disease, and my confidence in it is increasing."

In the present era of therapeutic enlightenment, phlebotomy in acute fevers is severely disapproved. The history of its decline and fall, which need not be traced here, would lead us to a long discussion of Virchow, Hughes Bennett, and other influential leaders. In contemporary practice the use of phlebotomy is virtually restricted to occasional cases of pulmonary edema, polycythemia vera, and a few severe cases of congenital heart disease. Even in the last-named group we are uncertain as to the exact indications and the limits of usefulness. With regard to possible value of phlebotomy in acute fevers or for the relief of pain, we have ignored the large amount of evidence accumulated by Smith and his predecessors. Thus we have thrown out the baby with the bath. Much might be learned from new, radical, and properly controlled studies of the effects of phlebotomy in a wide variety of morbid conditions. In the present climate of medical opinion there is no great probability that such studies will be undertaken, especially in cases of febrile disease.

Smith's discussion of therapeutics is followed by a brief passage of contagion. He considered it difficult if not impossible to decide with certainty whether the disease was imported or domestic. He recognized that trade was constantly active

between New Orleans and Galveston and that yellow fever had prevailed for some time in the former place before it appeared in the latter. To this extent at least there is an advance over the non-importation dogmas of Rush. At the same time Smith noted certain local causes, especially the decomposition of abundant animal and vegetable matters and the exhalations from a nearby marsh. The experimentalist tendency was not absent; Smith handled fresh post-mortem specimens and repeatedly tasted black vomit but experienced no ill effect.

The remaining pages of Smith's essay are devoted to the reports of his personally observed 31 cases. There were 10 deaths and 8 autopsies. Jaundice is mentioned in 14 of the histories. Smith estimated the total mortality in the outbreak as 100 out of a population of about 2,000. A lay observer estimated the deaths at 205.

An Account of the Yellow Fever must be reckoned as interesting rather than important. It is a clear, systematic, unimpassioned scientific study based on first-hand observation, unencumbered by a plethora of literary citations, and adding little or nothing to the sum of knowledge already extant. It is an excellent example of what a well-trained intelligent man can accomplish by simple methods but without the endowment of extraordinary insight. What insight and intelligence can accomplish even in the absence of specialized technical training may be seen in *Impressions of New Orleans . . . 1818-1820* by the architect Benjamin Latrobe. Latrobe's observations on yellow fever are notably in advance of Ashbel Smith's.

The volume under review also contains a preface and a biography of Ashbel Smith by Dr. Chauncey Leake. Dr. Leake has supplied a quantity of useful background material and an especially helpful bibliographical note. In view of these and other contributions by Dr. Leake this reviewer experiences a sense of reluctance at pointing out the following paragraph, which appears on page vi of the preface (reference numbers added by reviewer):

> Yellow Jack is one of the terrible prices we paid for slavery.[a] Brought to the new world in black cargoes of slaves from Africa, it soon began to devastate town after town on the eastern shore of North and South America. Its ravages in Philadelphia after the Revolutionary War were one of the main reasons why New York City made a great commercial advance over its previously more important political rival.[b] While gradual filling of swampy lands around coastal cities had reduced the incidence of the disease during the nineteenth century,[c] it was not until the Spanish American War that the dramatic experiments were made which showed clearly the part played by mosquitoes in transmitting the disease. The immediate practical consequence was the building of the Panama Canal, made possible only by control of yellow fever.[d] This great undertaking, which had been dreamed about for centuries, had failed more than once before because some nasty little insects had been able to defeat the most ambitious aims of thousands of men.

I trust that the distinguished scholar whom I have quoted will allow the following comments on the paragraph:

(a) It is true that yellow fever can be regarded as one of the terrible prices paid for slavery, since the disease was repeatedly brought to the western world in slave ships. At the same time the disease often arrived in ships which were not slavers and it would be almost incredible that the establishment of yellow fever in the New World could not have occurred in the absence of slavery.

(b) It would be difficult if not impossible to prove that the ascendancy of New York over Philadelphia was in any major degree due to yellow fever. New York passed Philadelphia in the population race in the year 1810 or thereabouts. August Hirsch records no less than nine yellow fever years in New York between 1801 and 1870 and eight in Philadelphia between 1801 and 1858. It seems more probable that the growth of New York in the early nineteenth century was due to such factors as its greater attractiveness to immigrants from northwestern Europe, to the superiority of its port, and to the opening of readily accessible territories to the westward, including the western part of New York State.

(c) *Aedes aegypti* breeds "in water held in artificial containers in and around human habitations. These mosquitoes never breed in swamps . . . even though these are located near houses" (Matheson). Hence it is impossible to contend that the filling of swampy lands around coastal cities reduced the incidence of yellow fever during the nineteenth century.

(d) It is a favorite contention of patriotic Americans that the difference between French failure and American success in the construction of the Panama Canal lay in superior American control of infectious disease, notably malaria, yellow fever, and typhoid. Dr. Leake specifies yellow fever as the crux. As Gerstle Mack has shown in *The Land Divided*, these beliefs are no longer tenable. Factors in the French failure include (1) the unwise decision to attempt a sea-level canal instead of a lock canal, (2) inadequate capitalization, (3) gross financial maladministration and graft, *as well as* (4) inferior sanitation. The glorious American enterprise was likewise marred by inferior sanitation until the work was in a comparatively advanced stage.

As a supplement to the essay by Ashbel Smith the editor has collected from various sources a series of brief biographical notes on the heroes of yellow fever research. These include numerous fragments of unfamiliar material but are predominantly derivative and hence do not equal the interest of the main section of the volume. Nevertheless, they will be of use to students and they in no way detract from the charm and vigor of Ashbel Smith's treatise.

SAUL JARCHO

SOLOMON R. KAGAN. *Jewish Medicine*. Boston, Mass.: Medico-Historical Press, 1952. 575 pp. Ill. $10.00.

George Matthiae of Göttingen concluded the last period of his *Conspectus Historiae Medicorum Chronologicus* in 1761 on p. 970 with the terse remark: "Judaeus unus occurrit circa 1670, Samuel Abatz ben Isaac, Hamburgensis." Against this the present book offers biographical notices of eminent Jewish doctors which occupy 46 pages for the Middle Ages, 30 pages for the transition to the modern period and no less than 422 pages for the latter. These figures give an idea of the rich contents of the present work. At the same time they indicate how, from the Middle Ages onwards, "Jewish medicine" is more and more converted into

"medicine practised by Jews." Accordingly, the author aptly professes to present "the Jew merely as another revolving wheel in the clock of progress" in a science which is a concern of mankind rather than of a family, race, or nation.

While an emphasis on hygiene and preventive medicine is characteristic of biblical and talmudic medicine, this was by no means devoid of original contributions. Of these, the author gives an impressive account based on his knowledge of the original sources. It includes the attention paid to the local and organ changes, attempts at roughly estimating the blood volume, recognition of gall stones and of haemophilia, and the distinction between hepatisation and carnification of the lung.

In the assessment of such contributions, the reviewer would not agree, however, with the statement (pp. 43 and 46) that the ancients had no knowledge of the pulmonary cavity whereas the Rabbis had. Hippocratic writers attributed "phthisis" to a pulmonary cavity in a most modern way ("*ἐν τῷ πλεύμονι . . . κοιλίη ἐν ᾗ τὸ πύον.*" Hippocrates, *Περὶ Νούσων* I, 14. See Pagel, W., History of Pathology of Phthisis, in *Beitr. z. Klin. d. Tuberk.*, 1927, LXVI, 71). Galen is said to have believed "that the thoracic cavity is filled with air and that such condition is necessary for the normal process of respiration" (p. 49). In fact, however, Galen compared the action of the lungs to that of a pair of bellows, in which the air fills only the bronchial system (see, for example, De Usu Partium VII, 9, ed. Kühn III, 544; translated by Daremberg, *Oeuvres de Galien*, 1854, vol. 1, p. 478). None of these reservations, however, invalidates the extensive evidence of observational medical knowledge possessed by the Rabbis, which has been so competently presented by the author.

The biographical lexicon of Jewish medical men, which forms the bulk of the book, is pleasantly interrupted by useful summaries and quotations from contemporary authors. Under "Modern Medicine" the multitude of outstanding figures appears in remarkable completeness with short biographies which assess their achievements. We mention a few of the older ones: Henle, Remak, Heidenhain, Valentin, Schiff, Ferd. Cohn, Cohnheim, Traube, Weigert, Romberg, Lichtheim, Ehrlich, Kronecker, Loeb, Zunts, von Baeyer, Willstätter, Unna, Neisser, Jadassohn, Edinger, Freud, Oppenheim, Minkowsky, Landsteiner, Finkelstein. The material appertaining to the wide subject of "Jewish doctors" is overwhelming and necessitates a selection which must be left to the discretion of the author. A few suggestions may be permitted, however. Of great Jewish clinicians, Bleichröder, the early inaugurator of heart catheterisation (see Benatt, A., in *Lancet*, 1949) might be mentioned and, of great morbid anatomists, Robert Meyer, the founder of modern gynaeco-pathology (see the brilliant essay by Emil Novak, *Am. J. Obst. & Gyn.* 1947, LIII, 50). Carl Benda belongs to the same category and so do Lewandowsky, the author of the classical work on Tuberculosis of the Skin, and Grunmach, the pioneer of radiology. Of the older—"romantic"—generation, David Ferdinand Koreff is a fascinating and colourful figure in medicine (animal magnetism), in literature (the romantic movement) and in politics (under the all powerful Prussian chancellor Hardenberg; see the monograph by F. v. Oppeln-Bronikowski, Berlin and Leipzig, 1928). Of deceased Jewish medical historians of note, not mentioned, Paul Richter, Erich Ebstein, Arnold Sack, Richard Koch, and H. Joachim come to mind. Louis Waldenburg should be remembered for

his classic on the historical and certain experimental-pathological aspects of tuberculosis (Berlin, 1869). Max Salomon has been briefly quoted in connection with his work on Amatus Lusitanus but should also appear in a special entry. Ludwig Herman Friedländer is buried among the internists, while really belonging to the medical historians.

The entries are generally given in groups of contemporary workers in the same field, with a few exceptions each appearing only once. Here and there one might disagree with the placing of entries—on the other hand, activities of one author in several fields make placing a difficult problem. There are not a few extensive (probably auto-) biographies of minor figures (mostly alive), as against short entries allowed to much bigger men (mostly dead).

These few suggestions cannot detract from the great value of the present work of reference. One might discuss the question: who are the Jews and what is Jewish medicine? One might even argue that neither exists. No doubt, however, can be raised with regard to the usefulness of the present book—in the face of a persecution in recent times which was without precedent in wickedness of purpose and cruelty of execution. It concerned that sociological group which, since 1908, has provided twelve Nobel Laureates for Medicine, i. e. nearly 25 per cent of all Nobel prize winners for this subject. The author must be congratulated on a solid piece of medical biography.

WALTER PAGEL.

WILLIAM A. R. CHAPIN and LYMAN ALLEN. *History University of Vermont College of Medicine.* Hanover, N. H., 1951. 162 pp., Ill. $5.00.

The third educational institution in New England to offer medical instruction was the University of Vermont being preceded by only Harvard and Dartmouth Colleges.

Instruction in some medical subjects was offered by one teacher of the faculty of arts from 1804 to 1821, but no medical degrees in course were conferred. A definite medical department, with a faculty of four professors, was organized in 1822 and continued in operation until 1836. The first medical degrees in course were granted in 1823, and a total of 117 men were graduated through 1836. Medical instruction was suspended from 1837 to 1852 inclusive, a period of sixteen years. The medical department was revived in 1853 with four professors and has been in operation since that year without interruption. The first class in the second phase of activity was graduated in 1853. A total of 3,646 medical degrees have been conferred through 1949.

The medical instruction has been at all times located on the campus of the University. However, the medical department was entirely controlled and conducted by the medical faculty as a proprietary institution, and its relation to the University was only an affiliation until 1898 when the medical instruction was incorporated as an organic part of the University.

This volume, compiled by two alumni of the College of Medicine, endeavors to follow the varying fortunes of the institution during nearly 150 years. The compilers

were much hampered by loss of all the records in the burning of the medical building in 1903. As a result, none of the minutes of the faculty and only a few of the catalogues of the nineteenth century were available to the compilers, which accounts for some of the deficiencies of the volume.

The book is divided into two parts of approximately equal length. The second part is essentially a series of appendices with some lists that recapitulate some of the material in the narrative first part. The division of this second part, which is no more than an appendix, into four chapters does not follow the conventional method of headings for appendices.

The volume opens with a chapter on the history of the state of Vermont which does not seem to belong to the history of an educational institution that happens to be located in that state, and the contents have no intimate relation to the medical institution.

This is followed by two chapters describing early conditions in the University preceding the organization of the medical department. The third chapter with the title "The Status of Medicine on the Frontier" deals with medical conditions in the latter part of the eighteenth and the first two decades of the nineteenth century.

Approximately one-fifth of the number of pages of the narrative part is used before the real history of the medical institution at Burlington is begun in chapter four which treats of the eighteen years of medical instruction under the faculty of arts and the first phase of the definite medical department. However, two-thirds of this chapter is used in biographical sketches of a few professors. This policy is continued in following chapters and more than half of the twenty-four pages given to the first ninety-four years is occupied by biographical sketches. Many histories of educational institutions show this fault in which biographical sketches are so extensive that the history of the institution as such is pushed into an obscure background. In this volume the fault is somewhat mitigated by the loss of the records in the fire of 1903.

The remaining five chapters of the narrative concern the institution since 1898. A chapter of fourteen pages, supplemented by fifteen pages in the second part, is devoted to alumni that served in the wars. This subject, occupying nearly one-fifth of the volume, is out of proportion and only remotely related to the institution as such.

The final chapter with the title "Arguments for Continuing State Support of the College of Medicine" might better have been printed as a circular and distributed to members of the legislature rather than included in a history which concerns events that have already happened rather than hopes for the future.

The second part contains thirty pages of interviews with the oldest living alumni and includes much history of the institution in the latter part of the nineteenth century, although from unofficial sources.

A list of 349 teachers with titles and years of service is a valuable feature of the second part as are also sixty-two notes which are mainly documentations of the narrative. No table of attendance and number of graduates year by year is included.

The major deficiency is lack of an index which is an essential of any book that claims to be a definitive history of an educational institution.

The leading factor in the history of a medical college is the development of the curriculum, both as to amount and content, and it should be presented in chronological order and concentrated in one place so that the steps of progress can be followed. Information concerning the curriculum is scattered throughout in biographical sketches and in interviews with elderly alumni, the latter not always reliable. However, lack of an index makes it difficult to find any specific event, such as the year of adoption of the graded course.

A general criticism is that the text is disorderly and not consistently organized. Chapter headings give meager leads as to what will be found in the following narrative.

The manufacture of the book is excellent. The paper is good, the type clear, the illustrations well reproduced, and the binding attractive. I have found only one typographical error. However, several errors in dates regarding other institutions occur in chapter five. The English and syntax are excellent and capitalization and punctuation follow recent usage.

The reader will find the volume entertaining with many pertinent and amusing anecdotes. One interested in the history of medical education in the United States will need to add this volume to his library for the sake of completeness, since relatively few histories of individual medical colleges have been published.

FREDERICK C. WAITE

Selected Writings of Sir William Osler, 12 July 1849 to 29 December 1919. With an Introduction by G. L. Keynes. New York: Oxford University Press, 1951. xx + 278 pp. Ill. $4.00.

The Selected Writings of Sir William Osler, "edited as a Centenary tribute to our patron Saint by a Committee of the Osler Club of London" with the help of Osler's nephew, W. W. Francis and a host of other worshipful devotees, is confessedly a labor of love, and, the vulgarism be pardoned, a love of a labor. The book is physically handsome, of fine proportions, and beautiful typography. It is a delight to the sight, in toto and in its parts. The essays included in the Selection represent Osler's major interests, and save for the trivial and testy "note" entitled Gui Patin, are from among Osler's best. Unhappily, Osler textually repeats himself in several instances and though the editors are cognizant of this, and offer the sage counsel, "an interesting passage will bear reading twice." the *déjà vu* is distracting.

In the introduction Dr. G. L. Keynes observes that "Osler's memory cannot, indeed, be better served than by a reading, or a re-reading, of his addresses and essays." That is of course true. Yet, on re-reading these selected writings—one wonders—what *will* that memory be among those who cannot know Osler save through his writings. Sir Arthur MacNalty said of Osler that "He achieved many honours and many dignities, but proudest of all was his unwritten title (The Young Man's Friend)."

It is a provocative query,—how is the young man likely to understand and esteem his honored and long deceased friend? Certain it is that in some respects he will

find a number of passages in Osler's writings rather difficult to understand. Their sentiments rather than their logic will trouble him. "History affords ample evidence of the efficacy of repressive measures often carried out on a scale of noble (sic) proportions." Since that was written we have had far too much and too bitter experience with the "efficacy of repressive measures." And is not the youth of today likely to feel that there is too much *equanimitas* in that passage—and also in the following: "Judged by his age Servetus was a rank heretic, and as deserving of death as any ever tied to a stake. We can scarcely call him a martyr of the Church. What Church would own him? All the same, we honour his memory as a martyr to the Truth as he saw it."

For the man of today, there is something missing here, and it troubles the spirit. We want Servetus judged not only by his passion riven age, but also by Osler. We want to ask and have an answer, was *any* heretic *ever* deserving to be tied to a stake, and why can we *scarcely* call Servetus a martyr of the Church?

Certain it is that Osler was exquisitely sensitive to every injustice prevailing among men, and brutality in any form was repugnant to his soul. In the excellent essay, The Old Humanities and the New Sciences, which Osler composed in the last year of his life (1919) one comes upon this moving protest "In the mystic shadow of the Golden Bough and swayed by the emotions of our savage ancestors, we stand aghast at the revelation of the depth and ferocity of primal passions which reveal the unchangeableness of human nature." It is not therefore that Osler was indifferent to the fate of Servetus! What then? The puzzlement which a re-reading of Osler's essays engenders can be resolved with no loss in the esteem and affection one has for their author. It is simply that Osler's essays are dated. They are of a time and in a mood now largely past. What otherwise may be said of the homely counsel which Osler offers in the Student Life,—of the three well stocked rooms—"The library, the laboratory, and the nursery—books, balances and bairns," of the good weekly and monthly journals, of the larger systems—Allbutt or Nothnagel—and of a system of surgery. 'Tis all dated, as is also his definition of Melancholy "as a state of mind in which a man is so out of touch with his environment that life has lost its sweetness." The essay on Robert Burton, to which the above passage serves as opening sentence is without the illuminating insight which modern psychiatric knowledge so well affords. Indeed, Osler's biographical essays are singularly devoid of psychological insight. One is prompted to suspect that he deliberately avoided going below the surface of "events and incidents" to seek for motives and dynamics,—lest his *equanimitas* would suffer.

But if Osler's essays are "dated," they are yet of profound significance, irridescent with the good will and humanity of the man, and studded with passages of scintillating eloquence. It can be said of Osler's authorship, what he said of Burton's Anatomy—though it smells of the lamp—it has a peculiar fragrance of its own.

One cannot but hope that this Centenary Tribute to Osler will have wide acclaim, particularly among the younger of our confreres. And also that some among them may be inspired to seek for the mainspring of Osler's singular genius. To such I would recommend an inquiry into the dynamics of the life long fascination which, of all mortals, Sir Thomas Browne had for Osler.

IAGO GALDSTON

ROBERT COOPE. *The Quiet Art.* A Doctor's Anthology. Edinburgh & London: E. & S. Livingstone (Baltimore: Williams & Wilkins Co.), 1952. 284 pp. Ill. $3.00.

This little doctor's anthology is a well considered compilation of aphorisms and excerpts from medical writings from Hippocrates to Osler, interspersed with gems from the world's literature embracing the entire period from Aristotle to the present day.

The book is composed of eight sections, each of which approaches the "quiet art" from a slightly different viewpoint. The importance of the scientific approach to medicine is recognized but the art of medicine is emphasized as necessary in the evolution of "the compleat doctor." The writings of outstanding physicians through the ages are mature opinions gained through life-times of experience. The high ethical plane on which medicine is founded is indicated by frequent quotations from the Bible and the books of other religions. The poise, composure and equanimity of the physician, so necessary in gaining the patient's confidence and in his success in the practice of medicine, are stressed time and again. The patient's viewpoint is not forgotten, and very helpful suggestions from this aspect of medical practice are noted.

"Doctors may justly feel proud of their profession's contributions to literature. Many doctors have written clearly and gracefully, humorously and movingly about the fundamentals of life and their profession." As an illustration of the doctors' facility in writing, the following quotation, paraphrased from "The Corner of Harley Street" by Peter Harding, M. D., is presented:

"There comes a period in most illnesses, often at the first dawn of convalescence, when one becomes conscious of the almost trivial delicacy of one's surrounding tissue. Very soon Nature will begin her work of restoration. But now she is standing by, trowel in hand to build her bricks to keep out the wind. 'Presently,' she says, 'this little house of yours will be mended, but don't forget that it is but a house after all.' The significance of this message may never be entirely lost; so that when the last storm blows, and the frail house falls, it's tenant may not go out altogether unprepared." Many similar items in this collection are pleasantly remembered; others are new but no less pertinent.

To the literary physician, this anthology will be particularly satisfying. All physicians will be rewarded by it's perusal.

ROLAND HAMMOND

L. C. DUNN (editor). *Genetics in the Twentieth Century.* Essays on the Progress of Genetics during Its First 50 Years. New York: The Macmillan Company, 1951. xiv + 634 pp. Ill. $5.00.

The forword to this interesting volume states that it "is a compilation of the invitation papers presented at the program of the Golden Jubilee of Genetics at Ohio State University, Columbus, Ohio, September 11-14, 1950. The celebration was in honor of the fiftieth anniversary of the rediscovery of Mendel's work which marked the beginning of the science of genetics." The collection is, however,

neither an attempt to survey the development of the science during those fifty years nor an effort to portray the status of genetics in its full amplitude at the present time. It consists of 26 essays of varied type, some of them historical in character, the majority dealing with important aspects of genetics today. All of these will possess considerable interest for the professional geneticist or lay follower of that science, and none of them is too technical for the general, biologically oriented reader.

The volume begins with a thought-provoking consideration by Richard B. Goldschmidt of The Impact of Genetics upon Science. While it could no doubt be shown with ease that various other biological sciences occupy a similar position and play a corresponding role in unifying our concepts of the living organism, this essay succeeds in clearly indicating the position of genetics in the core of modern biological thought, whence its influence permeates taxonomy, ecology, physiology, morphology, embryology, cytology, anthropology, psychology, agriculture, medicine, bacteriology, biochemistry, statistics, and numerous other areas. The service of genetics lies not only in the realm of concepts and ideas, but further extends to the provision of tools and methods whereby new, previously unsuspected avenues of experimental analysis have been opened to view—as recently in the field of biochemistry, for example.

The essays which look back at the growth of genetics in retrospect over the past fifty years include the following: Gregor Mendel's Life and Heritage (Hugo Iltis); The Knowledge of Heredity before 1900 (Conway Zirkle); The Beginnings of Mendelism in America (W. E. Castle); The Development of the Gene Theory (H. J. Muller); The Relation of Genes and Chromosomes (A. H. Sturtevant); The Progress and Prospect of Biometrical Genetics (Kenneth Mather); and Mendel and the Determinants (C. D. Darlington). It will be seen that the contributors here were chosen from among those who have been pioneers in the development of particular phases of genetics, or who have been outstanding in the study of its historical development.

Of particular interest for the medical scientist who is concerned with the role of constitution in disease are the considerations of human genetics: Old and New Pathways in Human Genetics (Lawrence H. Snyder); Genetics of the Human Race (L. S. Penrose); and the essays on genetics and disease: Genetics and Disease Resistance (John W. Gowen); and Genetics and the Cancer Problem (C. C. Little). Both Gowen and Little bring to the interpretation of the role of heredity in disease numerous experiments on the genetic basis of virulence in microorganisms and of the sensitivity of animal hosts such as chickens and mice. Other papers on related topics are those on Genetics and Immunology (M. R. Irwin) and Genetic Studies in Bacteria (Joshua Lederberg). Still others that deal with important recent developments in genetics are the essays on the cytochemistry of the nucleus and the chromosomes, by A. E. Mirsky, and by T. Caspersson and Jack Schultz; that on Chemical Genetics, by G. W. Beadle; on a special case of cytoplasmic heredity in yeast cells, by Boris Ephrussi, and a companion paper on the role of genes and cytoplasmic inheritance in *Paramecium*, by T. M. Sonneborn.

Apart from its fundamental place in biological theory and its basic contributions

to our understanding of biochemical, physiological, and pathological relations, genetics has made a great practical contribution to the 20th century. Of this we may read in the papers on Genetics and Plant Breeding (Arne Müntzing), Genetics and Animal Breeding (Jay L. Lush), Genetics and Plant Pathology (J. C. Walker), and Hybrid Corn (Paul C. Mangelsdorf). The effect of genetics on the increase of the human food supply is of course not only related directly to the world-problem of over-population, but also to the level of health throughout vast areas of the earth. If genetics has been unable to exorcise the spectre of malnutrition and hunger, even with the aid of other improvements in agricultural practice, we should recognize that the present well-being of the United States and the envy of less developed peoples is in no little measure due to the amazing increase in yield brought about through the introduction of improved genetic strains of plants and domestic animals. According to Mangelsdorf, hybrid corn alone has quintupled the yield per acre of the American corn farmer, paid for the full cost of development of the atomic bomb during the late war, and made up for the food deficiency of Europe in the post-war years.

The two final essays in the volume, by Th. Dobzhansky and Julian Huxley, respectively, deal with the relation of genetics to evolution. Although not all geneticists agree with every view expressed here, each reader will find these discussions truly thought-provoking. Surely no medical reader can afford to ignore the social implications of genetics.

BENTLEY GLASS

HAZEL LIN. *The Physicians.* New York: John Day, 1951. 250 pp. $3.00.

Although this book is described as a novel, it is an interesting study of old Chinese medicine, with which modern medicine is coming into contact. The story is that of old Wang Kung, a Chinese doctor of the old school, and his family. There are many touches that make vivid the impact of Buddhism on a family, and that point out how often the Chinese mother believes in sacrificing some animal, a white rooster, for example, when severe illness is present. Old Chang-ma "came in with the bloody fowl in her hand and placed it near the head of Hsiao-chen, the little patient, while the old physician nodded in approval. The rooster, being the first on earth to greet the sun, might drive away the *yin* and with it the child's sickness." You read, too, that a baby whose mother died during childbirth might be thought of as "a baby tigress who ate up her mother. The baby was born in the tiger year at the tiger hour, so she will gobble up more of her relatives."

When the child developed dysentery and her grandfather, the old physician, could not effect a cure, even with the aid of Li Kai, another old physician, it was proposed that the patient be taken "to the big foreign hospital." This, of course, stirred Wang Kung to fierce anger, but they asked the patient herself and she whispered in reply, nodding her head in approval. At first the servants were angry because the nurses and doctors at the foreign hospital wore white, the color of mourning; but as the little mistress got better they were won around. Old Wang

Kung got the little girl, whom he had named Hsiao Chen, a small particle of dust, because she had been the cause of her mother's death, to tell him what they had done for her treatment at the foreign hospital. Hsiao Chen told him of the long needle with which they had given her a saline transfusion, only to have him reply, "That is nothing. They have merely copied our method of acupuncture. You see, in your arm there is a leading point of *chin*, the channels for vital principles. When you were sick, one of the channels was blocked, so the acupuncture helped you. I could have done that for you myself, but you were so sick that I lost my head."

As the girl grew older, she was sent to a mission girls' school, after much prior opposition from Doctor Wang Kung. Now and again, when she was at home, she would find her way into her grandfather's consulting room and talk with him about old Chinese medicine, in which he was so expert. He explained to her the meaning of the lacquered panels hanging on the wall, giving praise to Pien-chiao, the great physician who had lived two thousand years earlier; and to Hua T'o the eminent surgeon of the period of the Three Kingdoms. Gradually the girl became deeply interested in Chinese medical history, and determined that she would become a modern doctor. This was finally agreed to, but only after vigorous arguing. Graduating at the Peking Union Medical College with high honors, Hsiao-chen came to America for graduate study, and immediately prevailed on her chiefs to let her undertake research on kidney conditions. They didn't realize, what she well knew, that the principles she was trying to work out were based on the teachings about vegetable remedies that her Grandfather had taught her. Before long, she proved so skillful that she was sent for to receive the award of an American society for medical research, and when she attended the gathering where the citation was to be read, she was fortunate enough to take old Grandfather along. He had finally responded to her urgent plea that he visit America. When the chairman read out the citation describing her brilliant investigations in the field of kidney diseases and her experiments with nephritic rats, the gathering was moved to applause, but Hsiao-chen came to the microphone and, after thanking them for the citation she had received, concluded with the statement "Fate has been very kind to me. The person who has made all of the many needed sacrifices for me is with us today, Dr. Wang Kung of Peking. He not only provided me with all of the needs for my education; but, more than that, he gave me out of his experience in Chinese medicine the original suggestion upon which my whole kidney research has been based. Ladies and Gentlemen, I present my grandfather." There stood the two physicians, the old and the new.

One of the most striking experiences described is that of the old physician's prescribing for a woman ill with the toxemia of pregnancy, and of her complete recovery after treatment with prescriptions of the old Chinese pharmacopoeia. The entire story suggests many avenues of inquiry that still need to be followed through. The more fellowship that Western and Chinese research workers can build up, the more certain it is that we shall discover many Chinese drugs with remarkable curative powers.

EDWARD H. HUME

CHARLES SINGER. *New Worlds and Old: Essays.* London: William Heinemann, 1951. 178 pp. 15s.

Almost abandoned by modern writers has been the delightful form of the occasional essay. This is a particularly appropriate medium for comment and discussion of historical affairs relating to science and medicine. Charles Singer is an essayist of the highest order, and it is a joy to welcome this important collection. Appropriately dedicated to his wife, this group of essays illustrate the great scope of Doctor Singer's interests and of his association with his wife in their development.

The theme of the essays covers the transition from the stable authoritative position of mediaeval culture as represented in philosophy, religion, tradition, and history, to the development of the scientific endeavor. Even in stretching far back to Aristotle, Theophrastus, and Galen, Doctor Singer reveals the origin of the scientific method.

Most interesting are the general philosophical essays discussing the relations between science and religion, the limitations of scientific method, and the influence of the scientific spirit on the moulding of character. Some of these essays appeared many years ago, and it is most important to have them readily available in book form.

The scope of the effort is indicated by the titles of the separate essays: I. The New Worlds of Copernicus and Vesalius; II. New World of Robert Hooke; III. Dawn of the Scientific Age; IV. Science Confronts Religion; V. Scientific Methods and Limitations; VI. Character as Moulded by Scientific Mood; VII. Impact of the "New Philosophy" on Theology; VIII. The Spirit of Science and History; IX. Aristotle as Naturalist; X. The Botany of Theophrastus; XI. A Sketch of Graeco-Roman Medicine; XII. Galen as a Modern, and XIII. A Great Country Doctor. The last refers to the remarkable English physician, Francis Adams of Banchory (1796-1861) who translated so skillfully so many of the important Greek medical authorities.

Interesting is Doctor Singer's comparison of the significance of Copernicus and Vesalius. Copernicus, he says, displaced the mediaeval view of the Macrocosm, but primarily in the scholastic manner. Vesalius displaced the mediaeval view of the Microcosm, but sets forth direct observation in a systematic and orderly fashion, and "in the full modern manner." Of Robert Hooke (1635-1703) Doctor Singer says he was a born practical mechanic. His scientific contributions derive mostly from his use of the microscope, and were reported in his important *Micrographia* (1665). In his essay, "The Spirit of Science and History," Doctor Singer pays a well deserved tribute to George Sarton for making the most sustained attempt to analyse "the development and product of the scientific mood throughout the ages." Important are the reprints of "Aristotle as Naturalist" and "The Botany of Theophrastus" from *Greek Biology and Greek Medicine* (1922). Equally as skillful is Doctor Singer's analysis of Graeco-Roman medicine, and of the modernity of Galen.

This little volume of essays is a delight, and will stimulate many thoughtful developments from its readers. It is a worthy member of the Heinemann Medical History Series.

CHAUNCEY D. LEAKE

SIR RUSSELL BRAIN. *The Contribution of Medicine to Our Idea of the Mind.* New York: Cambridge University Press, 1952. 30 pp. 50 cents.

This booklet represents the Rede Lecture, delivered in Cambridge on May 7, 1952, by the author who is President of the Royal College of Physicians and one of England's most outstanding neurologists. While emphasizing the great advances which medicine has caused in our analytical knowledge of brain and mind, Sir Russell Brain is aware of the unsolved philosophical difficulties. We do know more about the influence of abnormal physical states upon the working of our mind; we also know more about the concatenation of the latter's unconscious and conscious states. But we do not yet know how these two approaches can be fitted together, " for it would seem either that the physical and psychological explanations of mental states cannot both be right, or that, if they are, there must be some logical expression of their relationship to one another " (p. 20).

Short as it is, the Lecture contains many stimulating ideas, and it is written with a clarity and felicity of expression that recommend it to a wide stratum of readers.

OWSEI TEMKIN

THE BULLETIN RECENTLY RECEIVED *

Hennig Cohen. *The South Caroline Gazette, 1732-1775.* Columbia: University of South Carolina Press, 1953. xv + 273 pp. Frontispiece. $6.00.

Hugh G. Garland and William Phillips (editors). *Medicine.* 2 vols. New York: St. Martin's Press, 1953. xx + 2146 pp. Ill. $25.00.

Webb Haymaker (editor). *The Founders of Neurology.* Springfield, Ill.: Charles C. Thomas, 1953. xxvii + 479 pp. Ill. $10.50.

William MacMichael. *The Gold-Headed Cane.* A New Edition with a Foreword by William J. Kerr and an Introduction by James Waring. Springfield, Ill.: Charles C. Thomas, 1953. xxxii + 185 pp. Ill. $6.50.

Pat Ireland Nixon. *A History of the Texas Medical Association.* Austin: University of Texas Press, 1953. xx + 476 pp. Ill. $6.00.

Oystein Ore. *Cardano, the Gambling Scholar.* With a translation from the Latin of Cardano's Book on Games of Chance by Sydney Henry Gould. Princeton, New Jersey: Princeton University Press, 1953. xiv + 249 pp. Ill. $4.00.

Walther Riese. *The Conception of Disease*: Its History, Its Versions and Its Nature. New York: Philosophical Library, 1953. 120 pp. $3.75.

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* The *Bulletin* reserves freedom of decision as to the publications to be listed in this section.

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